Pioneer

AUDIO/VIDEO
MULTI-CHANNEL RECEIVER

VSX-908RDS
VSX-908RDS-G

Operating Instructions

IMPORTANT 1

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code :

Blue : Neutral
Brown : Live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 5 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows :
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three - pin plug.

NOTE
After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost replacement fuse covers can be obtained from: your dealer.
Only 5 A fuses approved by B.S.I. or A.S.T.A. to B.S. 1362 should be used.

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

Power cord CAUTION!

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

[For European model]

If the socket outlets on the associated equipment are not suitable for the plug supplied with the product the plug must be removed and appropriate one fitted.
The cut-off plug must be disposed of as an electrical shock hazard could exist if connected to a socket outlet.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This product complies with the Low Voltage Directive (73/23/EEC), EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC).

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

Maintenance of External Surfaces

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

Table of Contents

Before You Start 5
- Checking the Supplied Accessories 5
- How to Use This Manual 5
- Preparing the Remote Control 6
- Installing the Receiver 7
- Opening the front panel 7

Connecting Your Equipment 8
- Audio Components 8
- Video Components 9
- Digital Connections 10
- External Decoder Input 12
- Antennas 13
- Speakers 14
- Connecting Additional Amplifiers 17
- Power Connections (AC OUTLETS) (Except for the UK model.) 17

Displays and Controls 18
- Front Panel 18
- Display 20
- Remote Control 22

Surround Sound Set Up 24
- On Screen Display 24
- Setting Up for Surround Sound 25

Basic Playback 35
- Playing Sources with Stereo Sound 35
  - Direct playback 35
- Sound Modes 36
- Selecting a Sound Mode 38
- Playing Sources with Dolby Digital, DTS Sound or MPEG Audio 39
  - Using MPEG audio discs 40
  - Switching ANALOG/DIGITAL Signal Input 41
  - Reducing noise during playback (DIGITAL NR function) 42
  - Listening in MIDNIGHT Listening mode 43
  - External decoder playback (front panel only) 43
  - 96kHz 24bit performance 44
  - Listening in LOUDNESS mode (front panel only) 44
  - Adjusting bass and treble (tone control) (front panel only) 45
  - Adjusting the brightness of the display (front panel only) 45

Using the Tuner 46
- Automatic and Manual Tuning 46
- Direct Access Tuning 47
- Memorizing Frequently Used Stations 48
- Recalling Memorized Stations 49
- RDS (Radio Data System) Broadcast Reception 51

Remote Control of Other Component 54
- Setting Up the Remote Control to Control Other Components 54
- Remote Controlling Other Components 58

Using Other Functions 65
- Recording from Audio Components 65
- Recording from Digital Audio Components 66
- Recording from Video Components 66
- Multi Operations 67
- System OFF 69
- Setting up the Direct Function 70
- Remote back light 70
- Resetting the Remote Control 71

Techno Tidbits and Problem-solving 72
- Dolby Digital 72
- DTS 73
- MPEG Audio 74
- THX 74
- RDS (Radio Data System) 75
- Preset Code List 78
- Troubleshooting 82
- Specifications 84

MPEG (Moving Picture Experts Group) decoder equipped

MPEG Multichannel

DVD and other media recorded in MPEG audio can also be played back.

The MPEG logo is a registered trademark of Royal Philips Electronics.

Automatic Decoding of DTS (Digital Theater Systems)

This is the latest and most widely used digital theater system for cinemas throughout the world. The decoder has been incorporated into this receiver and is able to achieve high sound quality as well as produce dynamic surround sound effects.

"DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc. Manufactured under licence from Digital Theater Systems, Inc.

Automatic Decoding of Dolby Digital and Dolby Pro Logic

No need to worry about program formats. When playing Dolby Digital or Dolby Surround software in the (Dolby) Surround mode, decoding switches automatically according to the input signal.

Manufactured under license from Dolby Laboratories. "Dolby", "AC-3", "Pro Logic", and double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished Works. © 1992 - 1997 Dolby Laboratories. All rights reserved.

Direct Energy MOS Amplifier

This receiver incorporates 5 independent 110 watt power amplifiers, built with high-performance Hex power MOS FET output transistors. This construction provides improved linearity and accurate reproduction of each channel for true high fidelity reproduction from even the most demanding Dolby Digital and DTS program sources.

RDS (Radio-Data System)

With the RDS system, FM station can send additional signals with their regular program signals. For example, the stations send their station names, and information about the type of programs they broadcast, such as news, sports or music. This unit receives three types of RDS signals: RT, PS, and PTY.

True Home Cinema with THX® Certification

The HOME THX CINEMA surround mode employs special processing to allow you to enjoy movie soundtracks with the same level of power and realism you experience in well designed movie theaters. You can enjoy this effect with both Dolby Digital, Dolby Surround and DTS sources.

Manufactured under license from Lucasfilm Ltd. Lucasfilm and THX are trademarks of Lucasfilm Ltd.

Advanced Theater Modes

This mode enhances the sound of either film or music so a more dramatic effect can be achieved. The four modes are each designed to accentuate specific sound qualities, giving the listener a wide range of possibilities.

DSP Surround Modes

DSP (Digital Signal Processing) surround mode gives you the capability of transforming your living room into six different sonic environments when listening to music or movies.

Midnight Listening Mode

Midnight Listening mode allows you to obtain excellent surround sound effects even when listening at low volumes, something that was previously impossible.

Digital Noise Reduction

Digital Noise Reduction is the latest technology for filtering out unwanted noise. It produces clear, resonant tones.

Remote Control of Other Components

The supplied remote control can be used to operate a variety of other components simply by recalling the appropriate preset codes or by using the learning function to teach the remote control new commands. In addition, the multi-operation functions allow you to perform more than one operation at a time.

The Energy-saving Design

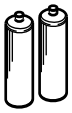
This unit is designed to use minimal electricity when power is switched OFF (in the Standby mode). Regarding the value of the power consumption in the standby mode, refer to "Specifications" on 84.

Checking the Supplied Accessories

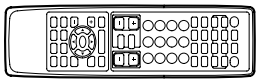
Please check that you have received all of the following supplied accessories.

FM wire antenna

AM loop antenna



"AA" IEC LR6 batteries × 2



Remote control unit

How to Use This Manual

This manual is for the VSX-908RDS/VSX-908RDS-G Audio/Video Multi-Channel Receiver.

This manual is divided into two main sections which will tell you how to set up and use the receiver :

PREPARATION

First carry out the tasks below in this "Before You Start" section to prepare the remote control, then connect the receiver to other components as described in "Connecting Your Equipment" (p.8). Take special care to connect your digital components like DVD and LD players properly to be able to take advantage of the receiver's surround sound systems (p.10-11). To learn about a specific button, control, or indicator, see "Display and Controls" on p.18.

SETUP

Performing the tasks in "Surround Sound Setup" (p.24) is essential to obtain proper surround sound.

OPERATION

To play some music or soundtracks, refer to "Basic Playback" (p.35). "Using the Tuner "(p.46) explains how to use the radio of this unit. Doing the operations in "Remote Control of Other Components"(p.54) is highly recommended so you can use this unit's remote control for all your components. "Using Other Functions"(p.65) explains the other possibilities of the receiver.
"Techno Tidbits and Problem-solving"(p.72) provides details technical information and a troubleshooting guide.

The following marks and symbols are used throughout the manual:

Provides additional information, precautions, and advice.

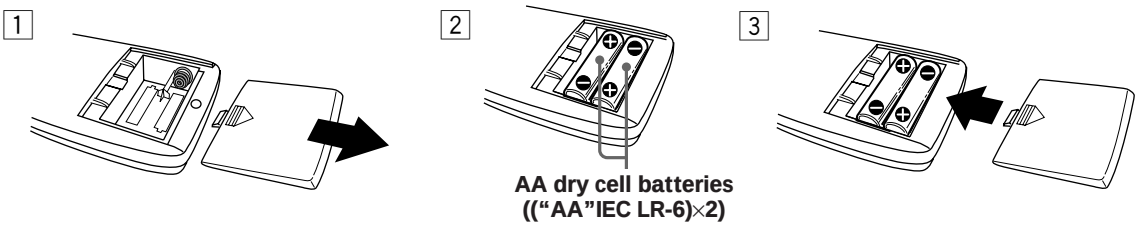
Indicates a blinking button, indicator, or display.

Indicates a steadily lit button, indicator, or display.

Preparing the Remote Control

Loading the batteries

Load the batteries into the remote control as shown below. Please use alkaline batteries.



When you notice a decrease in the operating range of the remote control, replace all batteries with new ones.

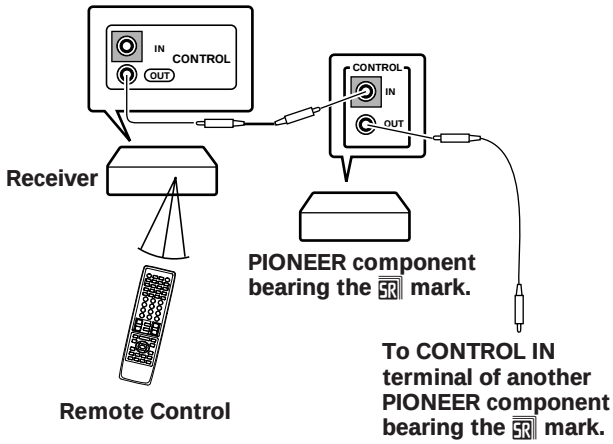
CAUTION!

Incorrect use of batteries may result in such hazards as leakage and bursting. Observe the following precautions.

- Never use new and old batteries together.
- Insert the plus and minus sides of the batteries properly according to the marks in the battery case.
- Batteries with the same shape may have different voltages. Do not use different batteries together.

Operating other PIONEER components

Connecting an optional control cord allows you to operate other PIONEER components simply by pointing the receiver's remote control at the remote sensor on the front panel of the receiver. The receiver then sends the remote control signals to the other components via the CONTROL OUT terminal.

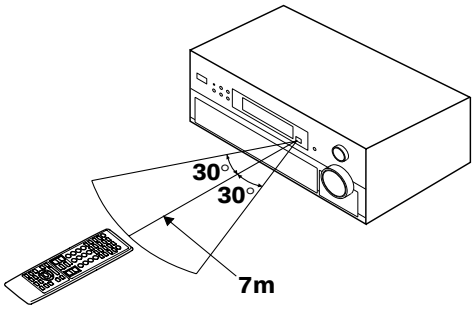


Memo You can also control PIONEER components (and those made by other manufacturers) by pointing the receiver's remote control directly at the respective components. This type of operation does not require control cords. All you have to do is recall the appropriate preset code (refer to "Recalling preset codes" on page 54).

Operating range of the remote control unit

The area in which you can use the remote control to operate the receiver is fairly large. To use, point the remote control toward the remote sensor on the front panel of this receiver while within the range shown below.

Memo Remote control may not function properly if:
- There are obstacles between the remote control and the remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- The receiver is located near a component emitting infrared rays.
- Operated simultaneously with another remote control which uses infrared rays.



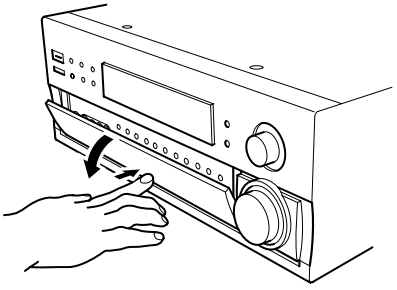
Installing the Receiver

Ventilation

- When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 60 cm at the top, 10 cm at the rear, and 30 cm at each side). If not enough space is provided between the unit and walls or other equipment, heat will build up inside, interfering with performance or causing malfunctions.
- Do not place on a thick carpet, bed, sofa or fabric having a thick pile. Do not cover with fabric or other covering.
  Anything that blocks ventilation will cause the internal temperature to rise, which may lead to breakdown or fire hazard.

Opening the front panel

To open the front panel, push gently on the lower third of the panel with your finger.



Before making or changing the connections, switch off the power and disconnect the power cord from the AC outlet.

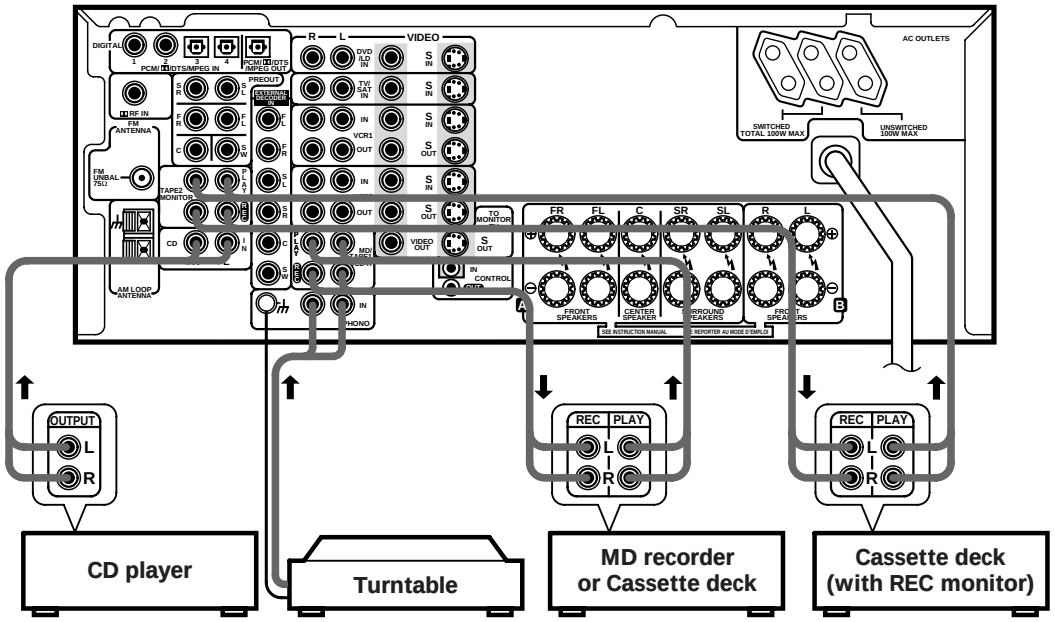
Audio Components

To begin set up connect your audio components to the jacks as shown below. These are all analog connections and your analog audio components (turntable, cassette deck) use these jacks. Remember that for components you want to record with you need to hook up four plugs (a set of stereo ins and a set of stereo outs), but for components that only play (like a turntable) you only need to hook up one set of stereo plugs (two plugs). To use DTS surround sound features you must hook up your digital components to the digital inputs but it is also a good idea to hook up your digital components to analog audio jacks. If you want to record to/from digital components (like an MD) to/from analog components you must hook up your digital equipment with these analog connections. See p.10, 11 for more on digital connections.

Memo

The arrows indicate the direction of the audio signal.

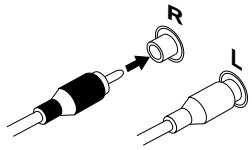
The illustration is not applicable to the UK model.



If your turntable has a ground wire, connect it to the ⏚ (signal ground) terminal.

■ Audio cords

Use audio cords (not supplied) to connect the audio components.



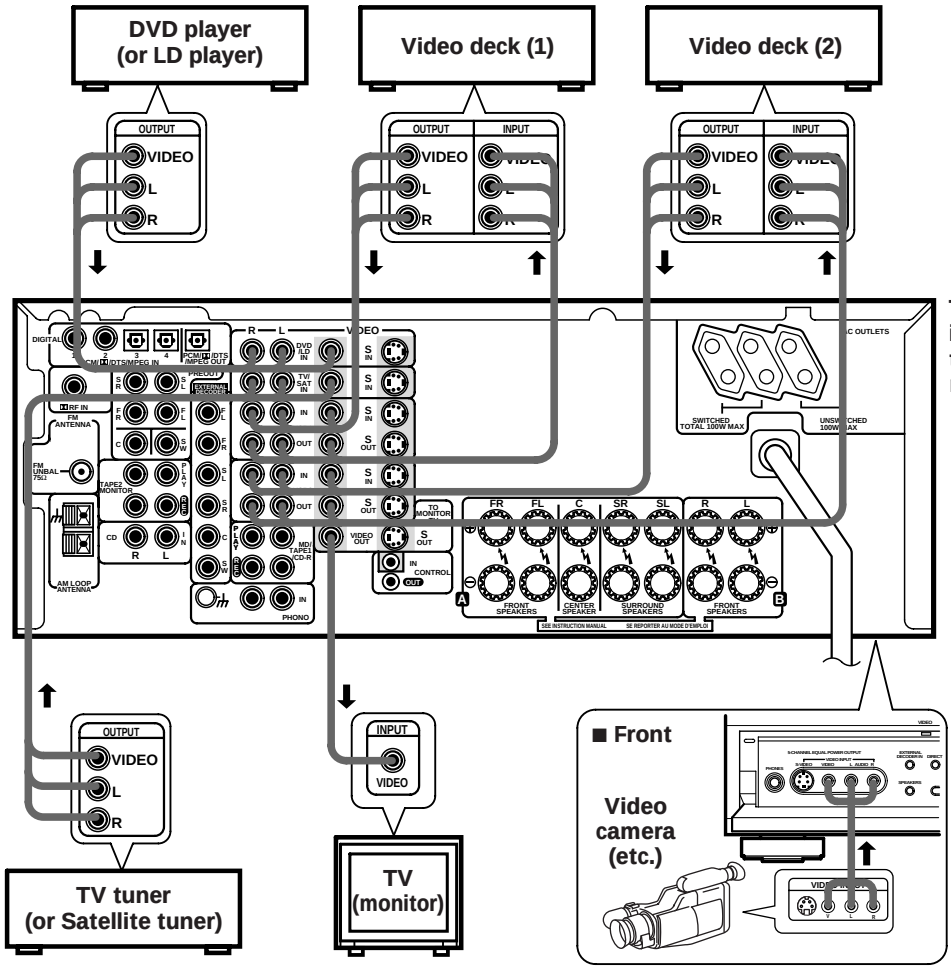
Connect red plugs to R (right) and white plugs to L (left). Be sure to insert completely.

Cassette deck placement

Depending on where the cassette deck is placed, noise may occur during playback of your cassette deck, which is caused by leakage flux from the transformer in the receiver. If you experience noise, move the cassette deck farther away from the receiver.

Video Components

Connect your video components to the jacks as shown below. Regarding digital video components (like a DVD), you must use the analog connections pictured on this page for the video signal but in order to use Dolby Digital you should hook up their audio to a digital input (see the next page). It is also a good idea to hook up your digital components with analog audio connections as well (see the previous page). To cover all possible laser discs a DVD/LD player or LD player requires an analog connection (as shown here) and two digital connections (see the next page).

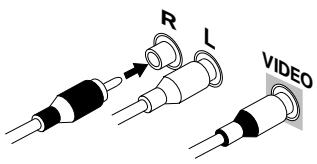


The illustration is not applicable to the UK model.

Front video connection are accessed via the front panel input selector as "VIDEO."

■ Audio/Video cords

Use audio/video cords (not supplied) to connect the video components and a video cord to connect the monitor TV.



Connect red plugs to R (right), white plugs to L (left), and the yellow plugs to VIDEO.
Be sure to insert completely.

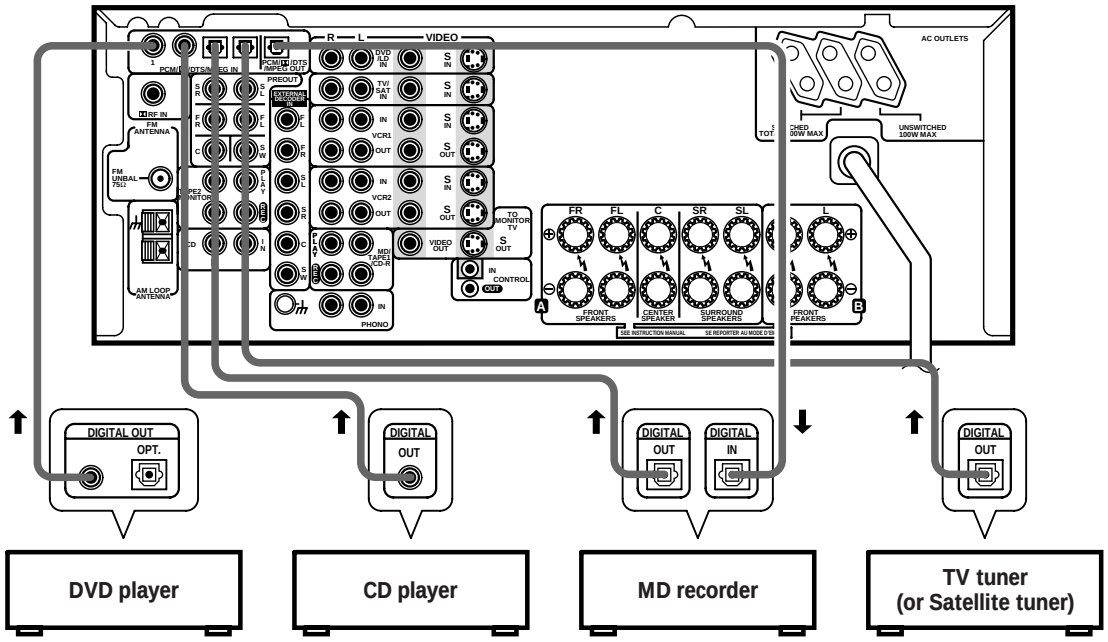
Memo

If your video components have S-video jacks, you could use S-video cords (not supplied) to connect them on the back of the receiver.
However, **if you use S-video cords for your video hook ups you must also hook up your TV with S-video connections. Conversely, if you use regular composite video cords for video hookups, you should use them for your TV as well.**

Digital Connections

In order to use MPEG/Dolby Digital/DTS soundtracks you need to make digital audio connections. You can do this by either coaxial or optical connections (you do not need to do both). The quality of these two types of connections is the same but since some digital components only have one type of digital terminal, it is a matter of matching. The receiver has two coaxial and two optical inputs for a total of four digital inputs. A DVD/LD player or LD player should be connected to a digital jack and the special AC-3 RF jack (if the LD player has one) as well as a pair of analog jacks (see the previous page). Connect your digital components as shown below. There is one digital out jack which is marked PCM/DD/DTS/MPEG OUT. If you connect this to the optical input on a digital recorder (currently these include MD, DAT and CD-R), you can make direct digital recordings with this receiver.

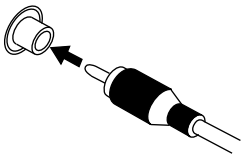
The illustration is not applicable to the UK model.



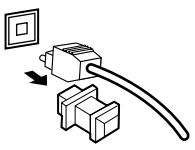
■ Digital audio cords/Optical cables

Commercially available digital audio coaxial cords (standard video cords can also be used) or optical cables (not supplied) are used to connect digital components to this receiver.
When you use optical digital input or output terminals, pull off the caps and insert the plugs. Be sure to insert completely.

Digital audio cord
(or standard video cord)

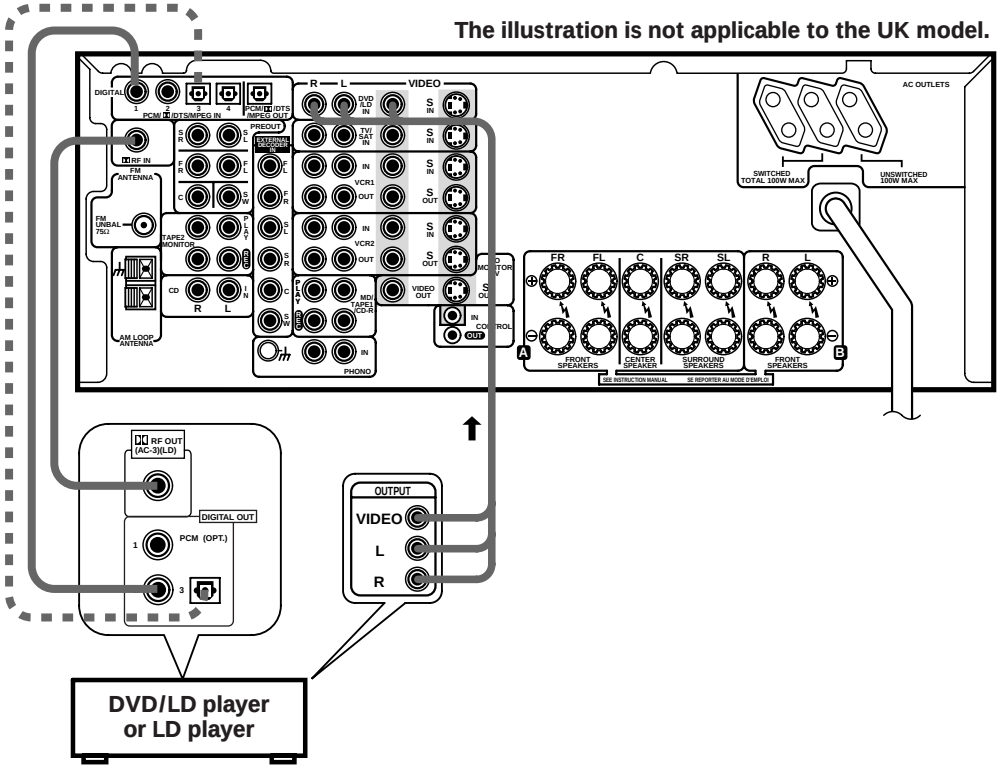


Optical cable



Example of Connection Using a DVD/LD or LD player

Make sure you connect your DVD/LD or LD players using the AC-3 RF jack and a coaxial or optical jack. If your player has an AC-3 RF output, this will ensure you can play back AC-3 RF signals. See p.34 for details.

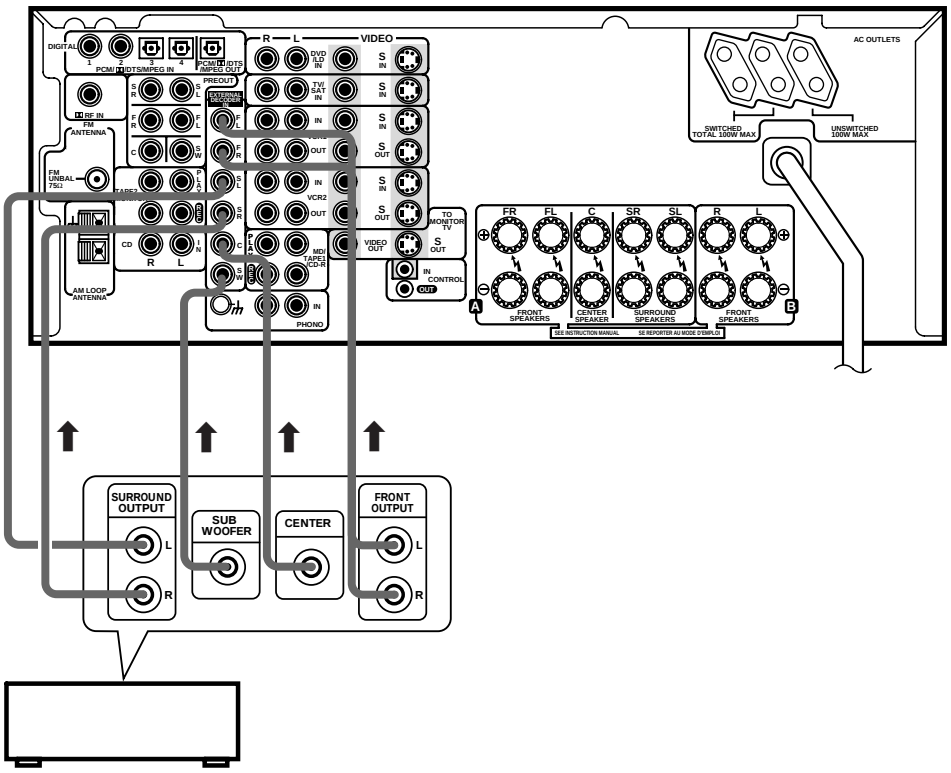


Memo Be sure to make either a digital coaxial or digital optical connection (pictured as DIGITAL-1 jack or DIGITAL-3 jack in this diagram) as well. You do not need, however, to make both. Also, be sure to assign the jacks to the proper component(s) with the "Digital-In Select" procedure (see p.34).

External Decoder Input

In some cases you may need an external decoder to play special DVD discs and the like. If you find you need an external decoder, hook one up as shown below. For most people this component is unnecessary. (See p.43)

The illustration is not applicable to the UK model.

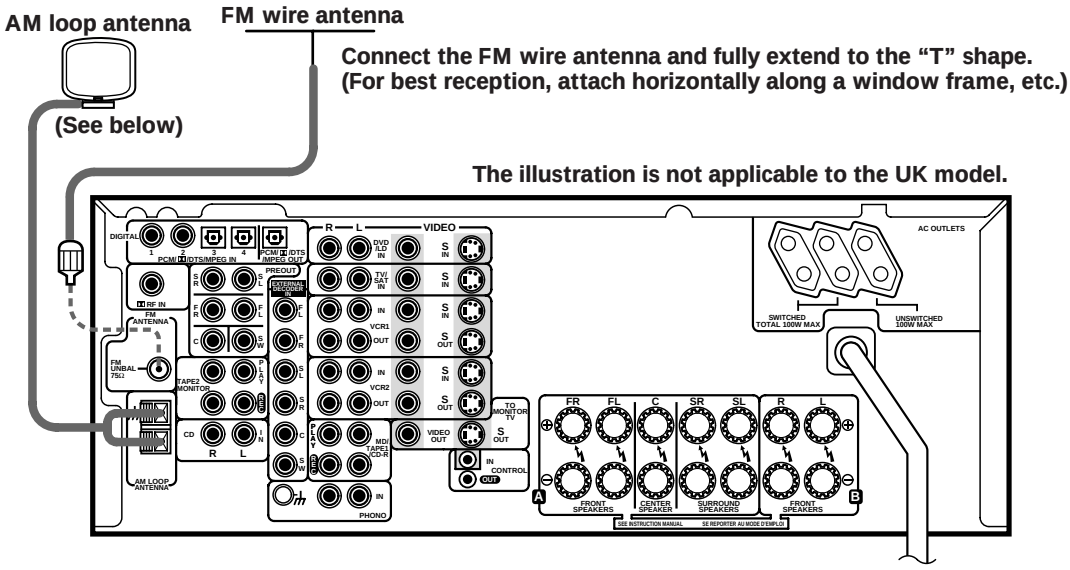


Components equipped with 5.1 channel analog output jacks

Memo You cannot use the tuner and phono functions with an external decoder input.

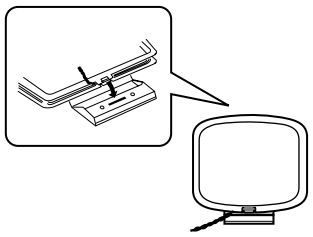
Antennas

Hook up the supplied radio antennas as shown below.

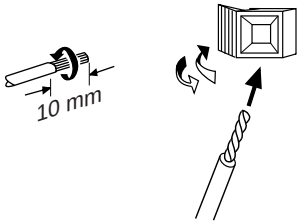


■ AM loop antenna

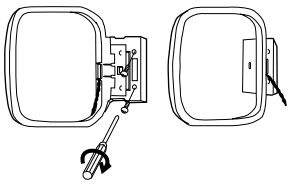
① Assemble the antenna.



② Twist exposed wire strands together and insert.



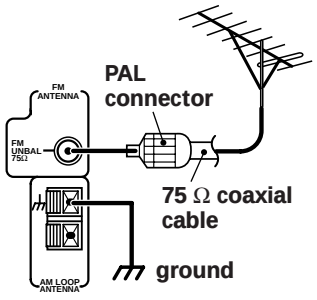
③ Attach to a wall, etc. (if desired) and face toward the direction providing the best reception.



Using external antennas

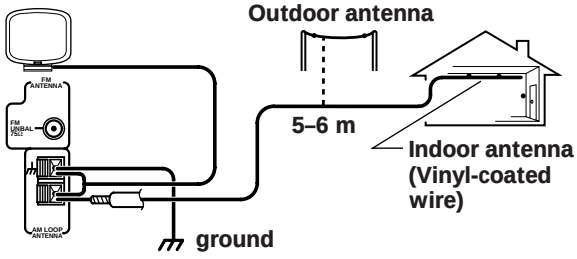
■ To improve FM reception

Connect an external FM antenna.



■ To improve AM reception

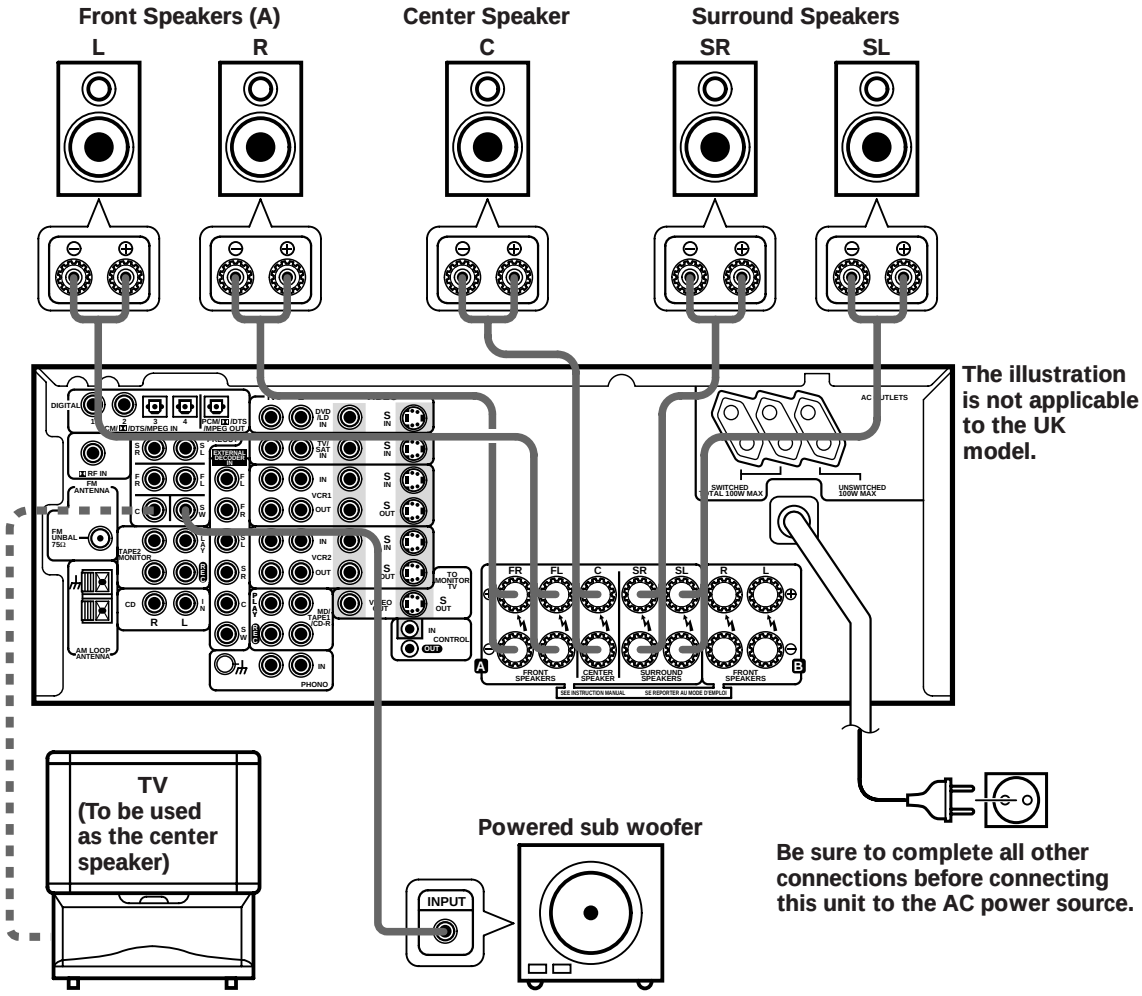
Connect a 5–6 meter length of vinyl-coated wire to the AM antenna terminal in addition to the supplied AM loop antenna. For the best possible reception, suspend horizontally outdoors.



Speakers

A full complement of six speakers is shown here but, naturally, everyone's home setup will vary. Simply connect the speakers you have in the manner described below. The receiver will work with just two stereo speakers (called "front" speakers in the diagram) but it is recommended to be used with at least three speakers.
Make sure you connect the speaker on the right to the right terminal and the speaker on the left to the left terminal. Also make sure the positive and negative (+/–) terminals on the receiver match those on the speakers.

Memo The receiver has two speaker systems, A & B. A is the main system supporting the full complement of surround sound speakers. If you switch on both A & B speaker systems, only front speakers and the sub-woofer will be audible. No sound will come from the center or surround speakers but multi channel sources will be down-mixed to the active speakers so no sound will be lost. Similarly, if you choose just the B system you'll only hear from the front speakers connected to the B system and multi channel sources will be down-mixed to these two speakers. Please use speakers rated between 6 Ω - 16 Ω.



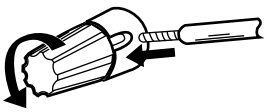
When using the speaker on your TV as the center speaker, connect the CENTER PREOUT jack on this unit to the audio input jack on your TV. In this case, the center speaker shown is unnecessary.

■ Speaker terminals

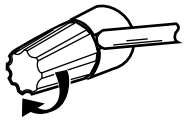
① Twist exposed wire strands together.

10 mm

② Loosen speaker terminal and insert exposed wire.

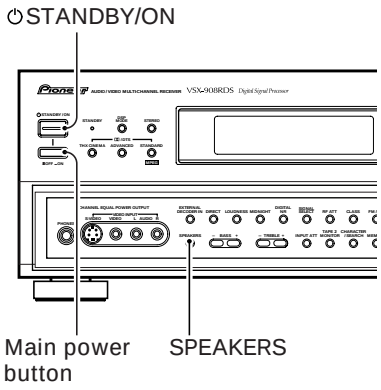


③ Tighten terminal.



Speaker impedance

You can change the speaker impedance to suit the kind of speakers you have in your home system. We recommend, however, using speakers with an impedance of 8 Ω-16 Ω (the default setting). If you are using 6 Ω –less than 8 Ω impedance speakers, you need to change the impedance setting.



Before operating the receiver, be sure to press the main power button on the front panel to turn the power ON (⏻).

First turn the receiver off (Standby mode), then press the STANDBY/ON button while holding down the SPEAKERS button.

Choose the impedance setting by pressing the SPEAKERS button again. You can choose the 8 Ω-16 Ω setting or the 6 Ω-less than 8 Ω setting.

(This display indicates an 6 Ω-less than 8 Ω impedance setting)

Memo

To check which impedance the amp is set to, hold down the SPEAKERS button for 2-3 seconds. You will get a display like the one shown below telling you the speaker impedance setting.

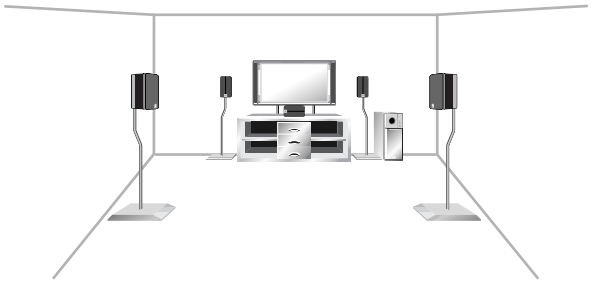
(This display indicates an 8 Ω-16 Ω impedance setting.)

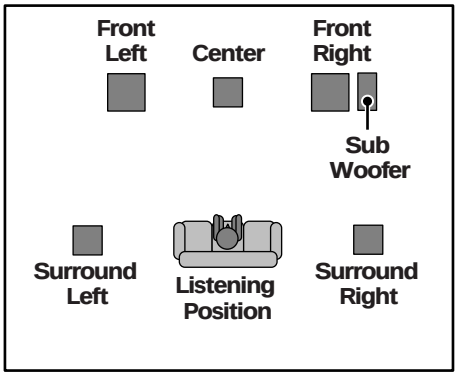
or

(This display indicates an 6 Ω-less than 8 Ω impedance setting.)

Speaker placement

If you have a multiple speaker arrangement, the placement of the speakers is extremely important. To achieve the best possible surround sound, install your speakers as shown below. Make sure all speakers are installed securely to prevent accidents and improve sound quality. Be sure to consult your speaker manuals for the best placement of the speakers. Some speakers are designed to be floor-standing but others benefit greatly from speaker stands which raise them off the floor.





Memo

- Install the left and right front speakers at equal distances from the TV.
- When installing speakers near the TV, we recommend using magnetically shielded speakers to prevent possible interference such as distortion in the color of the TV screen. If you do not have magnetically shielded speakers and notice discoloration of the TV screen, place the speakers farther away from the TV.
- Install the center speaker above or below the TV so that the sound of the center channel is localized at the TV screen.

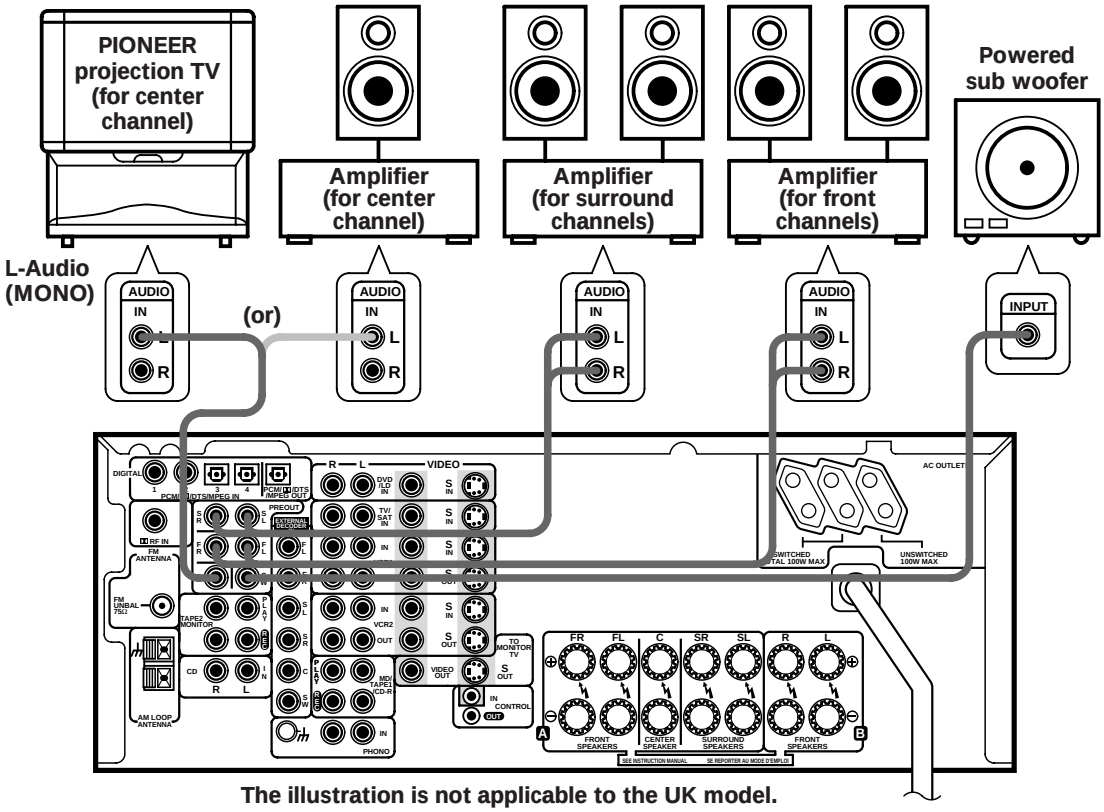
CAUTION:

When installing the center speaker on top of the TV, be sure to secure it with tape or some other suitable means. Otherwise, the speaker may fall from the TV due to external shocks such as earthquakes, and it may lead to endangering those nearby or damaging the speaker.

- If possible, install the surround speakers slightly above ear level.
- It may be difficult to obtain a cohesive surround effect if the surround speakers are installed farther away from the listening position than the front and center speakers.

Connecting Additional Amplifiers

Although the receiver has more than sufficient power for any home use, it is possible to add additional amplifiers to your system. If you want to use separate amplifiers to power your speakers, make the connections shown below.



The illustration is not applicable to the UK model.

Power Connections (AC OUTLETS) (Except for the UK model.)

[SWITCHED TOTAL 100 W MAX]

Power supplied through these outlets is turned on and off by the receiver's STANDBY/ON switch. Total electrical power consumption of connected equipment should not exceed 100 W.

[UNSWITCHED 100 W MAX]

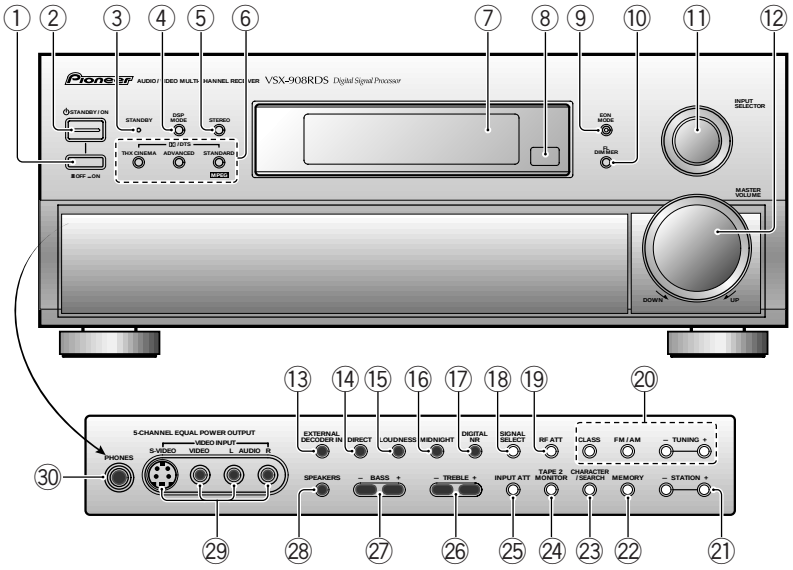
Power flows continually to this outlet, regardless of whether the receiver is switched ON or OFF. Electrical power consumption of the connected equipment should not exceed 100 W.

CAUTION!

- Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS in order to avoid overheating or fire risk. This can cause the amplifier to malfunction.
- The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

Front Panel

All the controls on the front panel are explained and/or referenced here. To open the front panel push gently on the lower third of the panel.



① Main power (■ ON/ ▁ OFF) button

If the button is OFF (▁), the power of the receiver is shut off and the STANDBY/ON button (②) on the receiver or the remote control do not function. Pressing the button again will turn the receiver ON (■) and the receiver enters the standby mode. In the standby mode, you can turn on the receiver using the STANDBY/ON button (②) on the receiver or the remote control.

② ⏻ STANDBY/ON button

Press to switch the receiver ON or into the STANDBY mode.

③ STANDBY indicator

Lights when the receiver is in the STANDBY mode. (Please note that this receiver consumes a small amount of power (1.0 W) during the standby mode.)

④ DSP MODE button (See p.37-38)

Press repeatedly to select a DSP sound mode. (HALL 1, HALL 2, JAZZ, DANCE, THEATER 1, or THEATER 2). Use these modes to produce surround sound from standard (two channel) stereo sources and create different listening environments.

⑤ STEREO button (See p.37-38)

Press to select the STEREO sound mode. In this mode, sound comes from the front (left and right) speakers only.

⑥ ◻◻/DTS buttons (See p. 36, 38)

THX CINEMA : Press to select the HOME THX CINEMA mode when listening to Dolby Digital, Dolby Pro Logic, DTS, or a variety of other sources.

ADVANCED : Press to select one of the four Advanced Theater modes.

STANDARD(MPEG) : Press repeatedly to select the STANDARD or MPEG mode.

⑦ Display (See page 20-21)

⑧ Remote sensor

Point the remote control toward the remote sensor to operate the receiver.

⑨ EON MODE button/indicator

Press to select the EON mode in the FM mode (see "Setting EON" on page 53). The indicator lights when the EON mode is selected.

⑩ FL DIMMER button (See p.45)

Use to adjust the brightness of the main display.

⑪ INPUT SELECTOR dial

Turn to select a source component. The source indicators on the display shows the current component:
DVD/LD :DVD player or Laser Disc player.
TV/SAT :TV tuner or satellite tuner.
CD : Compact disc player.
MD/TAPE 1 : Tape deck or Mini disc recorder connected to MD/TAPE 1/CD-R inputs/outputs.
TUNER : The built-in tuner.
PHONO : Turntable.
VIDEO : Video camera (etc.) connected to the VIDEO INPUT on the front panel.
VCR 1 : Video cassette recorder connected to VCR 1 inputs.
VCR 2 : Video cassette recorder or other component connected to VCR 2 inputs.

⑫ MASTER VOLUME

Adjusts the overall receiver volume.

⑬ EXTERNAL DECODER IN button (See p.43)

Use to hook up an external component that can decode other types of signals and input them into the receiver.

⑭ DIRECT button

Switches direct playback on or off. Use to bypass the tone controls and channel level for the most accurate reproduction of a program source. It will automatically put the receiver in the STEREO mode for that function.

⑮ LOUDNESS button (See p.44)

Switches the LOUDNESS mode on or off.

⑯ MIDNIGHT button (See p.43)

Switches the MIDNIGHT listening mode on or off.

⑰ DIGITAL NR button (See p.42)

Switches the DIGITAL NR on or off (STEREO mode only).

⑱ SIGNAL SELECT button (See p.41)

Use to select the signal from the digital components.
Press SIGNAL SELECT repeatedly to select one of the following:
ANALOG : To select an analog signal.
DIGITAL : To select an optical or coaxial digital signal.
AC-3 RF: To select an AC-3 RF signal.
AUTO: This is the default. If there are both analog and digital input signals, the receiver automatically selects the best possible signal.

⑲ RF ATT button (See p.46)

Press to turn the RF attenuator on when receiving strong FM signals (nearby stations) to reduce sound distortion. Normally, set the RF attenuator to off. This button does not affect AM reception.

⑳ Tuner control buttons (See p.46-52)

CLASS : Press repeatedly to switch the preset station classes.
FM/AM : Press to select the AM or FM band.
TUNING –/+ : Use to manually tune into radio stations.

㉑ STATION –/+ buttons (See p.48-50)

Use to choose programmed radio stations.

㉒ MEMORY button (See p.48)

Press to start the memorization of a preset station.

㉓ CHARACTER/SEARCH button

Press to select the character input mode, or initiate an RDS PTY search (see "Memorizing a broadcast station name" on p.50 and "Searching for a program by program type (PTY) on p.52).

㉔ TAPE 2 MONITOR button (See p.65)

Selects the tape deck (MD recorder, etc.) connected to the TAPE 2 MOINTOR inputs/ outputs. Allows monitoring of a recording as it is being made.

㉕ INPUT ATT button

Use to lower the input level of an analog signal that is too powerful, thus causing the receiver to distort (the OVER indicator will light furiously).

㉖ TREBLE (–/+) buttons (See p.45)

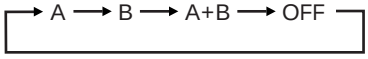
Use to adjust the high frequencies.

㉗ BASS (–/+) buttons (See p.45)

Use to adjust low frequencies.

㉘ SPEAKERS (A/B) buttons

A is the primary setting. It plays all speakers hooked up to the A system. A and B setting only plays the front speakers of both the A and B systems and the sub-woofer. Multi channel sources will be down-mixed to these speakers so no sound will be lost. B setting only plays the front speakers connected to the B system and Multi channel sources will be down-mixed to these two speakers.



㉙ VIDEO INPUT jacks (See p.9)

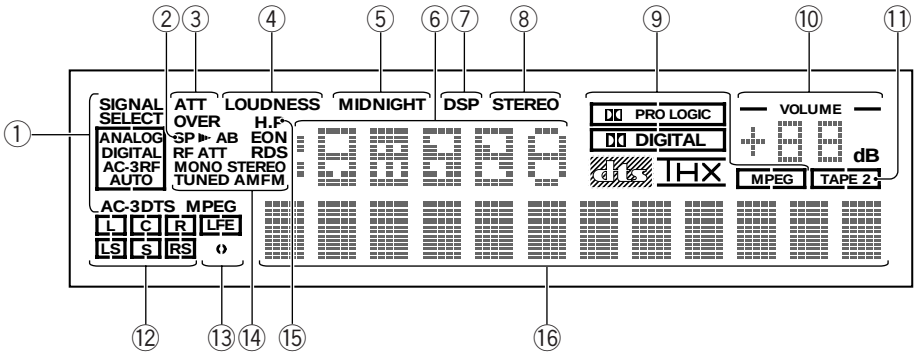
S-VIDEO : Video input for connecting a video camera (etc.), that has an S-Video out.
VIDEO / AUDIO (L/R) : Video input for connecting a video camera, etc. that has standard video/audio outputs.

∞ PHONES jack

Connect headphones for private listening (no sound will be heard through the speakers).

Display

All the display information is explained here.



① SIGNAL SELECT indicators

Light to indicate the type of input signal assigned for the current component (see "Front Panel", ⑱, SIGNAL SELECT).

ANALOG : Lights when an analog signal is selected.

DIGITAL : Lights when a digital audio signal is selected (DVD/LD, CD, MD/TAPE1, TV/SAT, VCR 1, VCR 2).

AC-3RF: Lights when an AC-3 RF signal is selected (DVD/LD, TV/SAT, VCR 1, VCR 2).

AUTO: Lights when the receiver is set to select the input signal automatically (DVD/LD, CD, MD/TAPE 1, TV/SAT, VCR 1, VCR 2).

AC-3 : Lights when a source with Dolby Digital signals is played.

DTS : Lights when a source with DTS audio signals is played.

MPEG: Blinks when the MPEG mode is selected, and lights when a source with MPEG audio signals is played.

② Speaker indicators

Light to indicate the current speaker system (see "Front Panel", ㉘ SPEAKERS (A/B)).

SP ▷ A : Lights when speaker system A is selected.

SP ▷ B : Lights when speaker system B is selected.

SP ▷ AB : Lights when speaker systems A and B are both selected.

③ Analog level indicators

OVER : If "ANALOG" is selected in SIGNAL SELECT, this indicator lights to show that an excessively strong signal is being processed. When this occurs, press INPUT ATT on the front panel to attenuate (lower) the signal. Also, when "DIGITAL" is selected in SIGNAL SELECT, this indicator lights to show that a source containing an excessive amount of information is being processed. If this occurs, see p. 38.

ATT : Lights when INPUT ATT is used to reduce the level of the input signal (available in ANALOG mode only).

④ LOUDNESS indicator (See p.44)

Lights when the LOUDNESS mode is on.

⑤ MIDNIGHT indicator (See p.43)

Lights when the MIDNIGHT listening mode is on.

⑥ Radio Frequency/Source indicator

Displays the source or the frequency of the current radio station.

⑦ DSP indicator (See p.37-38)

Lights when a DSP or Advanced Theater mode is selected.

⑧ STEREO indicator (See p.37-38)

Lights when a Stereo mode is selected.

⑨ DD Surround/dts (MPEG) mode indcators

DD DIGITAL : When the DD Surround/dts mode on the receiver is on, this indicator lights to indicate playback of a Dolby Digital signal. However, DD PRO LOGIC lights during 2 channel playback of Dolby Digital.
DD PRO LOGIC : When the DD Surround/dts mode on the receiver is on, this indicator lights during 2 channel playback. The indicator does not light when both the A + B speaker systems, just the B speaker system, or the headphones are selected for playback.
dts : Lights when DTS signals are input.
THX: Lights when the HOME THX CINEMA mode is selected.
MPEG: Lights when the MPEG mode is selected. (DD Surround/dts (MPEG) mode is ON)

⑩ MASTER VOLUME indicator

Displays current level of master volume.

⑪ TAPE 2 indicator (See p.65)

Lights when the TAPE 2 monitor is on.

⑫ Program format indicator

When a Dolby Digital or DTS signal is input, the following indicators light to show the channels being played back.
L : Left front*1*2, **C :** Center*1, **R :** Right front*1*2,
LS : Left surround*1, **S :** Surround (mono)*2,
RS : Right surround*1
*1: Indicates 5.1ch Dolby Digital playback.
*2: Indicates Dolby Pro Logic playback.

⑬ LFE indicator

LFE (Low Frequency Effects) indicator lights to indicate that the program source contains an LFE channel. The indicator under the LFE lights during actual playback of the LFE signals (LFE signals are not present in all parts of the soundtrack).

⑭ Tuner/ FM/AM indicators

MONO : Lights when the tuner is set to receive FM broadcasts with the MONO mode selected.
STEREO : Lights when a FM stereo broadcast is received in the auto stereo mode.
TUNED : Lights when a broadcast is received.
AM/FM : Light to indicate the current band (FM or AM).
EON: Lights when an RDS stations transmitting the EON data service is being received.
RF ATT: Lights when the RF attenuator is on.
RDS: Lights when RDS broadcast is being received.

⑮ H.P (headphones)

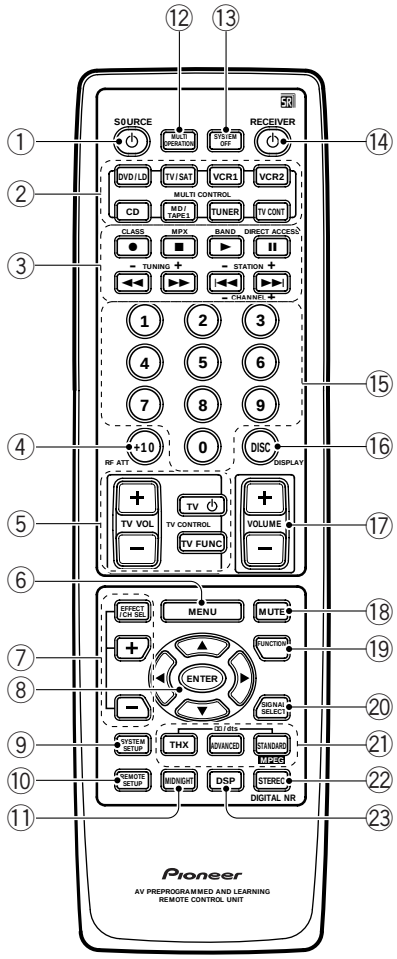
Lights when headphones are connected to the PHONES jack (speakers A and B turn off automatically).

⑯ Character display

Displays sound modes, general information, etc.

Remote Control

These pages describe the buttons on the remote control used to operate the receiver.



① SOURCE ⏻ button (See p.58-64)

Use to turn on the power of your other components after you have recalled or taught the signals to this remote control.

② MULTI CONTROL buttons

Use these buttons to select a source and the corresponding remote operation mode.
For example, pressing the TUNER button selects the built-in tuner and sets the remote control in the tuner operation mode.

③ Component control buttons

[Tuner control]
CLASS: Press repeatedly to switch the preset station classes.
MPX: Press to switch between auto stereo and MONO reception of FM broadcasts.
BAND: Press to select AM or FM band.
DIRECT ACCESS: Press to activate the direct access tuning mode.
TUNING +/–: Use to manually tune into radio stations.
STATION +/–: Use to choose programmed radio stations.

④ RF ATT button (See p. 46)

Press to turn the RF attenuator on when receiving strong FM signals (nearby stations) to reduce sound distortion. Normally, set the RF attenuator to off. This button does not affect AM reception.

⑤ TV CONTROL buttons

The following buttons are used to control the TV only and can be used no matter what function the remote control is set to.
TV ⏻: Press to turn the power of the TV on/off.
TV FUNC : Press to select the TV for remote control operation.
TV VOL +/– : Press to control the volume of the TV.

⑥ MENU button

Use to display various menus on the TV screen.

⑦ EFFECT/CH SEL +/– buttons (See p.38)

EFFECT : Use these buttons to increase or decrease the amount of effect applied in a DSP or Advanced Theater mode. When the amount of effect is increased in a DSP/Advanced Theater mode, the characteristics of that mode become stronger and more noticeable. The scale ranges from 10-90 with 70 as the default setting. First turn on the DSP or ADVANCED Theater mode (by pressing the ㉑DSP or Advanced button until you get the mode) and then increase or decrease the amount of effect.
CH SEL : You may want to adjust the channels when listening to some sound sources. Use this button to select the channel you want to adjust.
+/– : Use these buttons to select the amount of effect in a sound mode or to adjust the channel level when making surround sound settings.

⑧ ▲/∞/◄/►/ENTER buttons

Use to operate the on-screen menu on your TV screen and enter commands when setting up surround sound, speakers levels & settings, and other setup features (see p.25-34). Specific use of these buttons is described in conjunction with the operations they perform. For more information see each section.

⑨ SYSTEM SETUP button

Use to set up the speaker and sound systems. For more information see "Surround Sound Setup" starting on p. 24.

⑩ REMOTE SETUP button.

Use to customize the remote control functions and the remote control itself. (See "Setting Up the Remote Control to Control Other Components" on p.54, "Multi Operation" on p. 67.)
Press the SIGNAL SELECT and REMOTE SETUP buttons simultaneously to switch from the SIGNAL SELECT operation to EXTERNAL DECODER operation. Then press the button to get the EXTERNAL DECODER function. To get back to the SIGNAL SELECT control, press the REMOTE SETUP button and the SIGNAL SELECT button simultaneously once again.

⑪ MIDNIGHT button (See p. 43)

Switches the MIDNIGHT listening mode on or off.

⑫ MULTI OPERATION button

Use this button to start the MULTI OPERATION mode. See p. 67 for how to program and use the MULTI OPERATION mode.

⑬ SYSTEM OFF button

This button turns off components in two ways. First, when pressed, it will turn off all PIONEER components. Secondly, any component that has programmed into the SYSTEM OFF settings will also be turned off (see p.69).

For example : If you programmed power-on for your TV and VCR, pressing the SYSTEM OFF button will turn off these components even if they are not PIONEER products.

⑭ RECEIVER ⏻ button

Press to turn power of the receiver on or to STANDBY (off).

⑮ Number buttons

These buttons can perform a variety of different functions depending on the remote operation mode. They are most useful for CD player and tuner operations.

⑯ DISC/DISPLAY button

Press to switch the RDS data while listening to an FM station.
Each press changes the display mode in the order of RT, PS, PTY, and frequency.
This button can perform a variety of different functions depending on the remote operation mode.

⑰ VOLUME button

Use to raise or lower the volume of the receiver.

⑱ MUTE button

Press to mute or restore the volume.

⑲ FUNCTION button

Press to select a source. The button will cycle through all the possible sources.

⑳ SIGNAL SELECT button

Press SIGNAL SELECT repeatedly to select one of the following:
ANALOG : To select an analog signal.
DIGITAL : To select a digital signal (DVD/LD, TV/SAT, CD, MD/TAPE 1, VCR 1, VCR 2).
AC-3 RF: To select an AC-3 RF signal (DVD/LD, TV/SAT, VCR 1, VCR 2).
AUTO: This is the default. If there are both analog and digital input signals, the receiver automatically selects the best possible signal.
Press the SIGNAL SELECT and REMOTE SETUP buttons simultaneously to switch from the SIGNAL SELECT operation to EXTERNAL DECODER operation. Then press the button to get the EXTERNAL DECODER function. To get back to the SIGNAL SELECT control, press the REMOTE SETUP button and the SIGNAL SELECT button simultaneously once again.

㉑ DD/dts buttons (See p.36, 38, 72-74)

Press these buttons to put the receiver in the selected sound mode. For more information on the modes, see "Sound modes" starting on p.36.

㉒ STEREO/DIGITAL NR button

STEREO : Press this button to put the receiver into the stereo mode when it's in a different sound mode. For more information on the sound modes (see p.38).
DIGITAL NR : Switches the DIGITAL NR on or off (see p.42).

㉓ DSP button (See p.37-38)

Press repeatedly to select a DSP sound mode.

On Screen Display

There are a number of possible ways to hook up the receiver to your video components, like a DVD player, and hook up to your receiver to your TV, but some of them will not allow you to use the on-screen display of this unit. To avoid this, you simply need to keep the following rules:

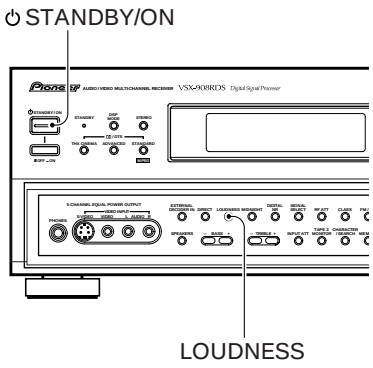
① Always use the same type of video cords to hook up your video components to the receiver as you use to hook up the receiver to your TV. For example, if you use composite video cords to hook up your DVD player to the receiver, use composite video cords to hook up the receiver to your TV. If you use S video cords to hook up your DVD player and the receiver, use S video cords to hook up the receiver to your TV.

② Always make sure your TV is set to the appropriate input channel (for example, video 1).Your TV may have a number of input channels and if you do not select the proper one, you will not be able to use this receiver's on-screen display, or, in fact see any picture from this receiver at all. If you are unsure how to choose an input channel for your TV, refer to the manual which came with your TV.

You might, for example, use both composite and S video cords to hook up your video components with this receiver and then use composite video cords to hook up this receiver to your TV. This arrangement would still NOT let you see the on-screen displays from this receiver on your TV. The best idea is just to use one type of video cords for all your video component and TV hook ups.

Switching video system between PAL and NTSC

This receiver is able to use two types of video systems for its OSD (on screen display) and you need to set the receiver to the type of video system you have, either PAL or NTSC. If you do not match the system on the receiver with your home system no OSD will appear on your TV. People with multi-system TVs, do not need to worry about changing the setting. If necessary, follow the instructions below to swithc the type of video system.



1 **Put the receiver in the STANDBY mode.**

2 **While holding down the LOUDNESS button, press the STANDBY/ON button.**
The video system type, either "PAL" on "NTSC", appears in the display. It will be shown for about seven seconds and then the receiver reverts to normal operating mode.

Memo Be careful to press the LOUDNESS button and NOT the DIRECT button, which will accidentally clear all your speaker settings (see warning p.73).

When a PAL system is selected

When a NTSC system is selected

Memo

• When using the PAL setting the OSD does not get displayed in color.

Setting Up for Surround Sound

To ensure the best possible surround sound, be sure to complete the following setup operations. This is particularly important when using the HOME THX CINEMA, DTS, DD (Dolby) surround and MPEG sound modes. You only need to make these settings once. These setup operations use your TV to display the settings and choices. Be sure your TV and receiver are properly hooked up.
That gets them out of the way and you will not need to return to this setting mode unless you change your home setup by adding new speakers (etc.). The sound setup modes explained here are:

Speaker Setting (See p.26-27)
Use to specify the type and number of speakers you connected.

Channel Delay (See p.28)
Set up all your speakers for the most realistic surround sound. Adding a slight delay to some speakers enhances sound separation and is particularly important for achieving a surround sound effect. You need to figure out the distance from your listening position to your speakers to add the proper delay.

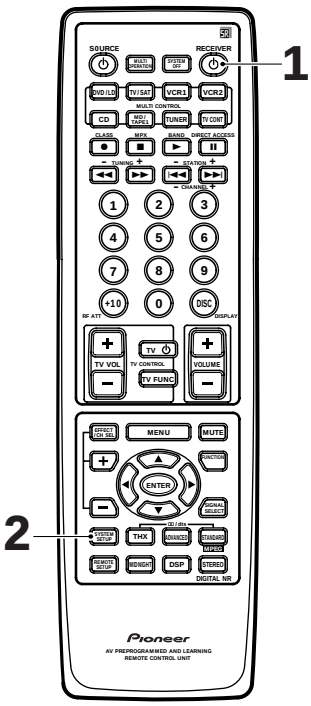
Channel Level (See p.29-30)
Use to balance the volumes of your different speakers.

Crossover Network (See p.31)
This feature lets you select which bass frequencies will be sent to the sub woofer or front speakers.

Bass Peak Level Manager (See p.32)
Dolby Digital and DTS audio sources include ultra-low bass tones. Set the bass peak level as needed to prevent the ultra-low bass tones from distorting the sound from the speakers.

D-Range Control (See p.33)
This feature makes possible excellent surround sound effects when listening to Dolby Digital sources at low volumes.

Digital-In Select (See p.34)
In order to use your digital components you must match the numbered digital input buttons with the numbered digital jacks used by your digital components.

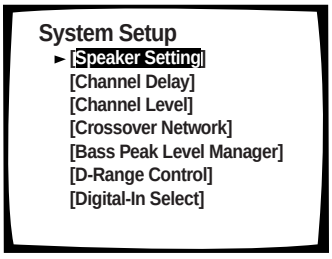


1 Turn on the receiver and your TV.

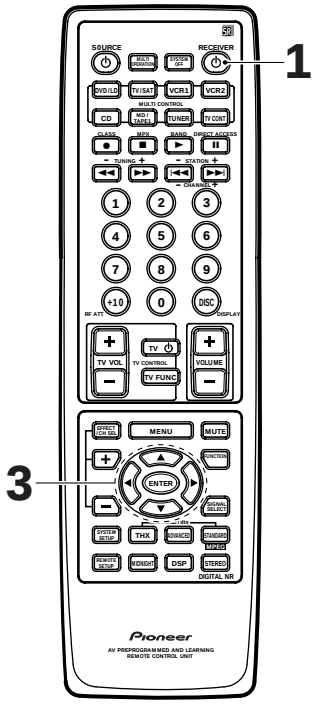
Make sure your TV is set to the receiver mode.

2 Press the SYSTEM SETUP button.

The **System Setup** menu appears on your TV screen.



To escape from this screen
Press the SYSTEM SETUP button at any time again. None of the settings you made will be entered in this case.



3 Press the ▲ or ∞ buttons to move the hand to the mode you want, and press the ENTER button.

In each mode, the current settings are displayed automatically. We suggest you adjust all these settings when you first hook up the receiver.

4 Go on to the next page to continue setup.

To exit the System Setup mode and on-screen display
Press SYSTEM SETUP button again.

Memo After you complete one of the "System Setup" menu items and return to the basic System Setup screen, the receiver automatically moves the cursor to the next System Setup menu item. For example, if you've completed **Speaker Setting** and returned to the basic **System Setup** screen, **Channel Delay** will be selected automatically. You can notice this on your TV screen.

Speaker Setting

The following steps show you how to specify the type of speakers you connected. Use the ▲/∞ and ◄/► buttons to make a selection within the on-screen menus, and use the ENTER button to register the information.

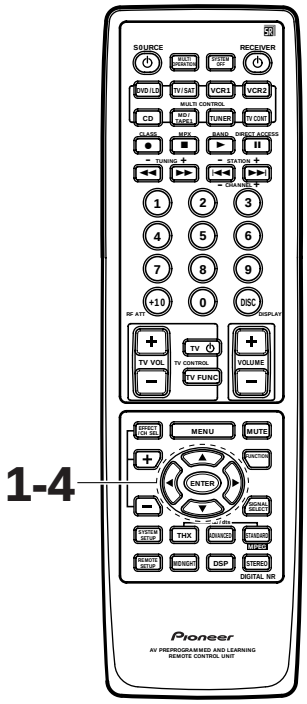
Depending on your choices the sound will be routed differently, as explained here.

FRONT (default setting is LARGE)
- Select SMALL to send bass frequencies to the sub woofer.
- Select LARGE if your speakers will reproduce bass frequencies effectively or if you did not connect a sub woofer.
  (If you select SMALL for the front speakers, the sub woofer will automatically be switched on. Also,the center and surround speakers cannot be set to LARGE if the front speakers are set to SMALL. In this case, all bass frequencies are sent to the sub woofer.)

CENTER (default setting is LARGE)
- Select LARGE if your speaker will reproduce bass frequencies effectively.
- Select SMALL to send bass frequencies to the other speakers or sub woofer.
- If you did not connect a center speaker, deselect it (NO). In this case, the center channel is output from the front speakers.

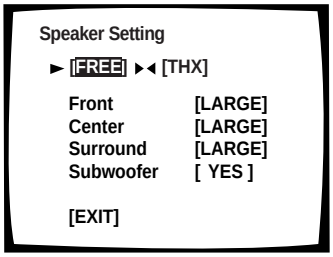
SURROUND (default setting is LARGE)
- Select LARGE if your speakers will reproduce bass frequencies effectively.
- Select SMALL to send bass frequencies to the other speakers or sub woofer.
- If you did not connect surround speakers, deselect them (NO). In this case, the sound of the surround channels is output from the front and center speakers.

SUB WOOFER (default setting is YES)
- Leave it selected (YES) if you connected a sub woofer.
- If you did not connect a sub woofer, deselect it. In this case, the bass frequencies are output from the front or surround speakers.
- Choose the PLUS setting if you want stronger reproduction of deep bass sounds.
- If you select PLUS, the bass frequencies that would normally come out from the front and center speakers are all routed to the sub woofer.



1 Select Speaker Setting with the ▲/∞ buttons and press the ENTER button.

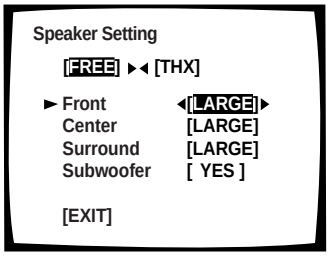
See "Setting Up for Surround Sound" on p.25-26 if you are unsure how to do this.



2 Select a speaker setting mode with the ◄/► buttons and press the ∞ button.

To specify each speaker individually
Select FREE.

If you connected a complete set of THX speakers
Select THX and skip to step 4.



3 Specify the type of speakers you connected.

See the explanations on the previous page for the meaning of each size.

① Press ◄ or ► to move the hand to LARGE, SMALL, or NO (you cannot select NO for the FRONT speakers).
② Press ∞.
③ Repeat ① and ② for each speaker.

4 Select EXIT with the ▲/∞ buttons and press the ENTER button to return to the System Setup menu.

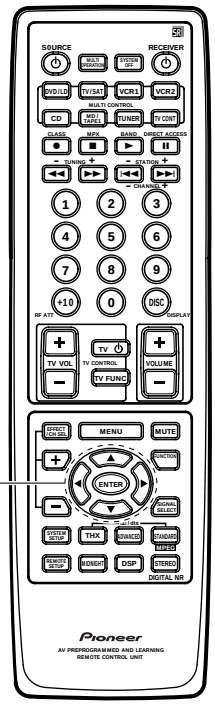
Next, proceed to **Channel Delay** on the next page.

If you want to change a setting before proceeding
Simply use the ▲/∞ buttons before pressing the ENTER button to go back.

Memo If you have a sub woofer and like lots of bass, it may seem logical to select LARGE for your FRONT speakers and leave the sub woofer selected. This may not, however, yield the best bass results. Depending on the size and shape of your room you may actually experience a decrease in the amount of bass due to what is called "low frequency cancellations." If you have a sub woofer, listen to the bass response with the FRONT speakers set to LARGE and SMALL alternatively and let your ears judge which sounds best.
The safest option in this case is to route all the bass sounds to the sub woofer by selecting SMALL for the FRONT speakers.

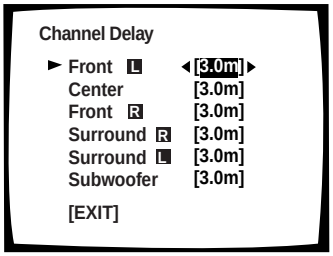
Channel Delay

Adding a slight delay to some speakers is necessary to achieve a surround sound effect. You need to figure out the distance from your listening position to your speakers to add the proper delay. The following steps show you how to set the delay time for each channel by specifying the distances from your listening position to each speaker. Once you specify the speaker distances, the receiver calculates the correct delay times automatically. If continuing from **Speaker Setting**, go to step 1. If starting fresh, complete steps 1-3 in "Setting Up for Surround Sound" (p.25-26) first.



1 Select Channel Delay (if continuing from last set up, it will already be selected), and press the ENTER button.

See "Setting Up for Surround Sound" on page 25-26 if you are unsure how to do this.



Memo The default setting is 3.0 m.

2 Select a speaker with the ▲/∞ buttons.

3 Specify the distance from your listening position with the ◄/► buttons.

Pressing the ◄/► buttons will adjust the speaker distance in 0.3 m increments from 0.3 to 0.9 m.

4 Repeat the above steps 2 and 3 for each speaker.

Memo Sound takes about 1 ms (millisecond) to travel 0.3 m.

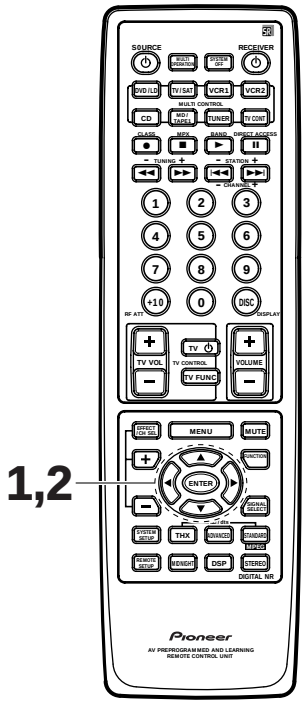
5 Select EXIT with the ▲/∞ buttons and press the ENTER button to return to the System Setup menu.

Next, proceed to **Channel Level** on the next page.

If you want to change a setting before proceeding
Simply use the ▲/∞ buttons before pressing the ENTER button to go back.

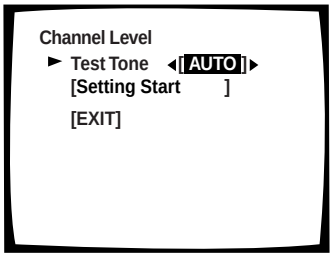
Channel Level

The following steps show you how to balance the sound output level of your speakers. Proper speaker balance is essential for obtaining high quality surround sound. If continuing from **Channel Delay**, go to step 1. If starting fresh, complete steps 1-3 in "Setting Up for Surround Sound" (p.25-26) first.



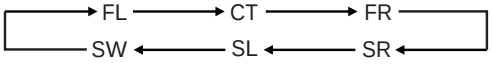
1 Select Channel Level (if continuing from Channel Delay, it will already be selected), and press the ENTER button.

See "Setting Up for Surround Sound" on page 25-26 if you are unsure how to do this.



2 Select a Test Tone mode (AUTO or MANU) with the ◄/► buttons.

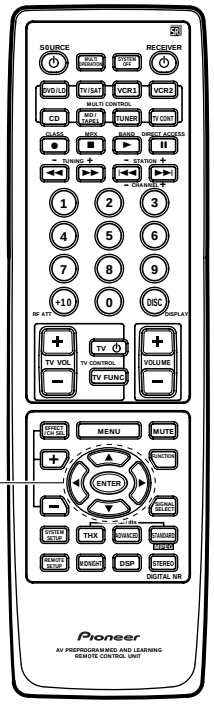
AUTO (automatic Test Tone)
This mode switches the test tone between each speaker automatically. Use this mode when balancing the speaker levels by ear.
The automatic test tone is output in the following order:



MANUAL (manual Test Tone)
This mode switchs the test tone between each speaker manually. You can use this mode when you want to balance the speaker levels by ear at your pace.

Memo If your subwoofer has a volume control, set it to the middle position before proceeding.

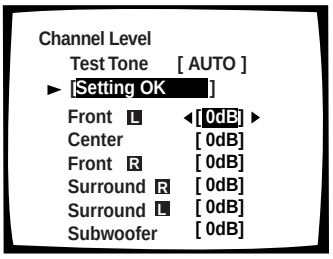
SET UP



3-6

3 Select Setting Start with the ▲/∞ buttons, and press the ENTER button.

The Test Tone will be output.
These settings will be displayed on your TV.



It takes a moment for the machine to set itself. The MASTER VOLUME dial rotates to the reference position (0 dB), and the test tone is output.

To exit before outputting the Test Tone
Press the ENTER button.
To exit while outputting the Test Tone
Press the ENTER or SYSTEM SETUP button.

4 Adjust speaker levels so that you hear the test tone at the same volume from each speaker when seated in your main listening position.

The volume of the sub woofer tends to sound lower than it actually is. You may need to raise its level after testing the sound with actual soundtracks.

In the AUTO mode
① Press the ◄ or ► button to adjust the level of the speaker outputting the Test Tone.
In the MANU mode
① Press the ◄ or ► button to adjust the level of the first speaker.
② Press the ▲/∞ button to switch the Test Tone to the next speaker.
③ Repeat ① and ② for each speaker.

If you are using a Sound Pressure Level (SPL) meter
Take the readings from your listening position and adjust the level of each speaker to 75 dB (C-weighted/slow model).

Memo It is possible to set channel levels independently for DD/ dts, STEREO, EXTERNAL DECODER and each DSP mode for listening-once purposes (see p.22 ⑦). This function is designed to be used to change the levels temporarily to hear on speaker louder.
Return the settings to their original state when done.

5 When you have adjusted each speaker level, select Setting OK and press the ENTER button to return to the previous screen.

The VOLUME will return to its original position.

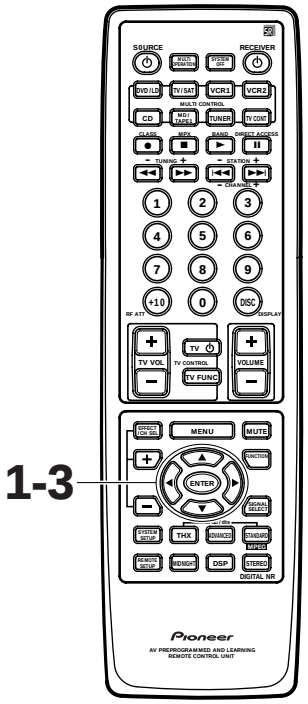
6 Select EXIT with the ▲/∞ buttons and press the ENTER button to return to the System Setup menu.

Next, proceed to **Crossover Network** on the next page.

If you want to change a setting before proceeding
Simply use the ▲/∞ buttons before pressing the ENTER button to go back.

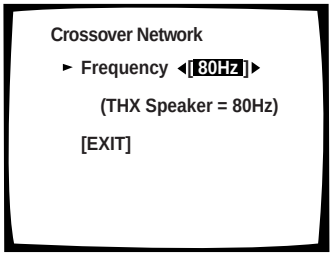
Crossover Network

The following steps show you how to adjust the crossover network. The crossover network is the frequency at which the system divides the signal and sends the different parts (high ,mid, low) to different speakers. Speaking precisely, this setting sets the cutoff point for the bass frequencies rerouted from your SMALL speakers to your sub woofer or speakers set to LARGE. Setting speakers to SMALL in "Speaker Setting" sends the respective channel's bass frequencies to the sub woofer (or LARGE speakers). If continuing from **Channel Level**, go to step 1. If starting fresh, complete steps 1-3 in "Setting Up for Surround Sound" (p.25-26) first.



1 Select Crossover Network (if continuing from Channel Level, it will already be selected) and press the ENTER button.

See "Setting Up for Surround Sound" on page 25-26 if you are unsure how to do this.



Memo The default setting is 80 Hz.

2 Select the crossover frequency for your small speakers with the ◄/► buttons, and press the ∞ button.

Setting speakers to SMALL in "Speaker Setting" sends the respective channel's bass frequencies to the sub woofer (or LARGE speakers).

80 Hz
Sends bass frequencies below 80 Hz to the sub woofer (or LARGE speakers).

100 Hz
Sends bass frequencies below 100 Hz to the sub woofer (or LARGE speakers).

150 Hz
Sends bass frequencies below 150 Hz to the sub woofer (or LARGE speakers).
As noted on your TV screen the THX setting is 80. Select this setting if you have THX approved SMALL speakers.
Experiment with the different settings to see which sounds best to you.

3 Select EXIT with the ▲/∞ buttons and press the ENTER button to return to the System Setup menu.

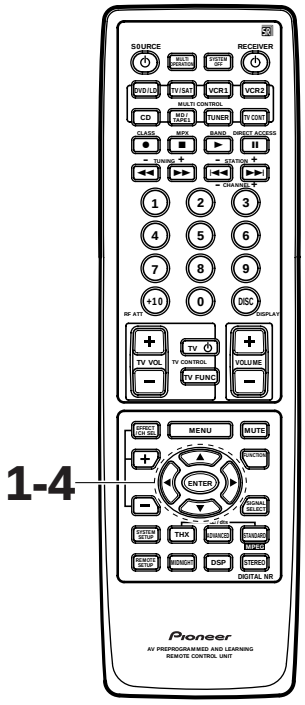
Next, proceed to **Bass Peak Level Manager** on the next page.

If you want to change a setting before proceeding
Simply use the ▲/∞ buttons before pressing the ENTER button to go back.

SET UP

Bass Peak Level Manager

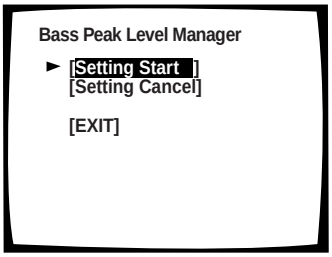
The LFE (Low Frequency Effect) channel in Dolby Digital, DTS, and MPEG audio program sources can produce heavily concentrated ultra-low bass tones that may exceed the capabilities of your speaker system. The following steps show you how to set the peak level for the ultra-low bass (LFE) channel. If continuing from **Crossover Network**, go to step 1. If starting fresh, complete steps 1-3 in "Setting Up for Surround Sound" (p.25-26) first.



1-4

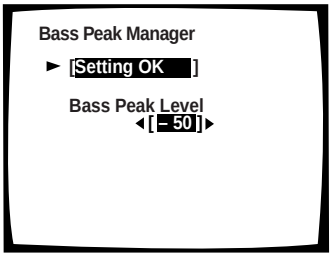
1 Select Bass Peak Level Manager (if continuing from Crossover Network it will already be selected) and press the ENTER button.

See "Setting Up for Surround Sound" on page 25-26 if you are unsure how to do this.



2 Select Setting Start with the ▲/∞ buttons and press the ENTER button.

The MASTER VOLUME dial rotates to MIN (---dB).



3 Press and hold the ► button until you hear the test tone from the sub woofer to determine the peak LFE level, and press the ENTER button.

Use the ◄/► buttons to gradually increase the level of the LFE channel until the test tone begins to distort. Then go back and leave the level setting at a point just before that. Then press the ENTER button and the receiver will remember this bass output level.

To exit before outputting the Test Tone
Press the ENTER button.
To exit while outputting the Test Tone
Press the ENTER button.

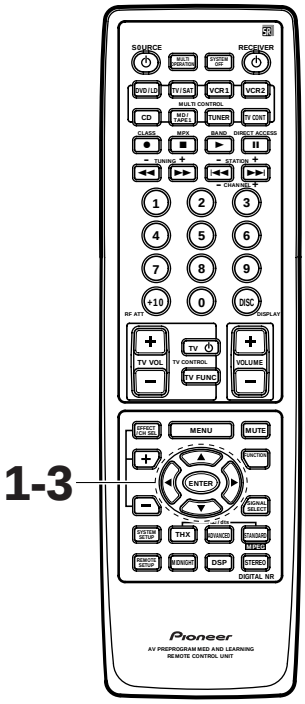
4 Press the ENTER button to return to the System Setup menu.

This completes the speaker setup.

Memo If you select "Setting Cancel" and press the ENTER button, no settings are input to the receiver but the screen remains on the TV. To escape the screen, you must select EXIT and press the ENTER button.

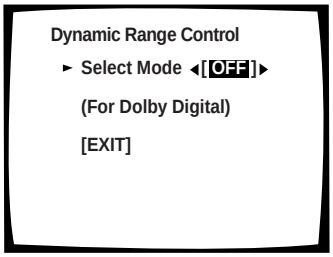
D-Range Control

This feature makes it possible to enjoy full surround sound effects on Dolby Digital sources even at low volumes. It does this by compressing the dynamic range. Dynamic range is the difference between the loudest and the softest sounds in any given signal. Compressing the range plays sounds so the quieter ones are audible and the louder ones do not get distorted or become overpowering. This feature only applies to Dolby Digital sources but the MIDNIGHT listening mode accomplishes the same end for a variety of sources (see p.43). If continuing from **Bass Peak Level Manager**, go to step 1. If starting fresh, complete steps 1-3 in "Setting Up for Surround Sound" (p.25-26) first.



1 Select D-Range Control (if continuing from Bass Peak Level Manager, it will already be selected) and press the ENTER button.

See "Setting Up for Surround Sound" on page 25-26 if you are unsure how to do this.



Memo
- The default setting is OFF.
- If listening at high volumes, we recommend turning the Dynamic Range Control OFF.

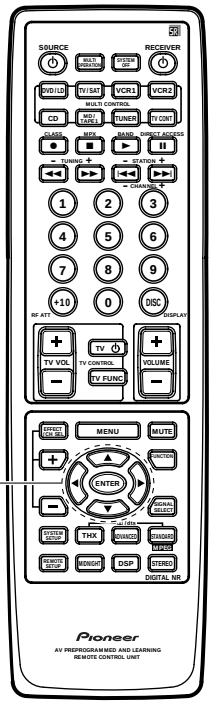
2 Select OFF, MID or MAX with the ◄/► buttons.

3 Select EXIT with the ▲/∞ buttons and press the ENTER button to return to the System Setup menu.

If you want to change a setting before proceeding
Simply use the ▲/∞ buttons before pressing the ENTER button to go back.
Choose a new **D-Range Control** setting.
You may need to experiment with different Dolby Digital sources before you can use **D-Range Control** setting to suit your low volume listening needs.

Digital-In Select

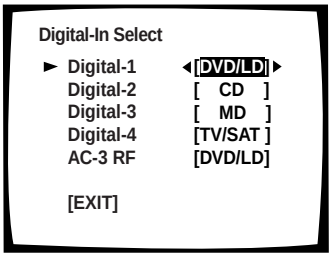
In order to be able to use your digital equipment properly you need to assign digital inputs for each of the digital components you connected. Match the Digital 1-4 with the digital jacks1-4 in accordance with what component is hooked up to each digital jack. Check the digital terminal numbers on the back of the receiver to make certain what component is in which jack (if necessary, see p.10 for more on digital connections). The last item, AC-3 RF, is specifically for a DVD/LD or LD player with an AC-3 RF output. If you connected one of these components, match this setting to the component. If continuing from **D-Range Control**, go to step 1. If starting fresh, complete steps 1-3 in "Setting Up for Surround Sound" (p.25-26) first.



1-3

1 Select Digital In Select (If continuing from last set up, it will already be selected) and press the ENTER button.

See "Setting Up for Surround Sound" on page 25-26 if you are unsure how to do this.



2 Select a Digital 1-4 or AC-3RF where you assign an input source with the ▲/∞ buttons.

3 Select the input source that matches the component hooked up to that digital terminal with the ◄/► buttons.

The possible choices include: DVD/LD,TV/SAT, CD, MD/TAPE 1, VCR 1,VCR 2. You cannot assign digital inputs to the TUNER, VIDEO, PHONO, and TAPE 2 MONITOR functions.

4 Select EXIT and press the ENTER button to return to the System Setup menu.

If you want to change a setting before proceeding
Simply use the ▲/∞ buttons before pressing the ENTER button to go back.

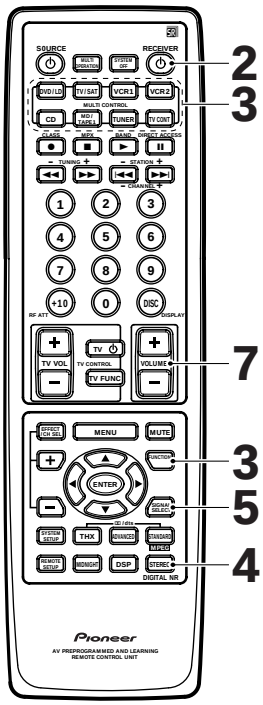
Memo

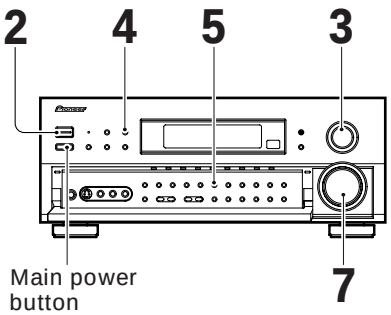
- For the Digital 1-4 setting you can choose between DVD/LD, CD, TV/SAT, MD/TAPE 1,VCR 1 and VCR 2 sources.
- For the AC-3 RF setting you can choose between DVD/LD, TV/SAT, VCR 1 and VCR 2 sources.
  Remember, if you have a DVD/LD or LD player you should hook it up to the analog and digital jacks in addition to the AC-3 RF connection described here.
- Once one function (for example DVD/LD) has been assigned, its name disappears from the possibilities on the remaining buttons because one function cannot be assigned twice.

Before operating the receiver, be sure to press the main power button on the front panel to turn the power ON (⏻).

Playing Sources with Stereo Sound

The following instructions show you how to play audio or audio-visual stereo sources with the receiver.

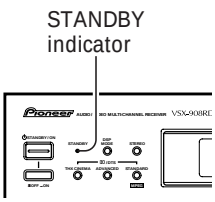




1 **Turn on the power of the playback component.**

2 **Press the RECEIVER ⏻ button to turn on the receiver.**

Be sure that the standby indicator turns off on the front panel.



3 **Press the MULTI CONTROL buttons or the FUNCTION button on the remote control or turn the INPUT SELECTOR dial on the front panel to select the source you want to play back.**

The FUNCTION button cycles through the sources in the following order:

DVD/LD → TV/SAT → CD → MD/TAPE 1 → TUNER → VCR 2 ← VCR 1 ← VIDEO ← PHONO

4 **Press the STEREO button to select the stereo mode.**

The STEREO indicator lights on the display.

5 **Press SIGNAL SELECT button on the remote control or on the front panel to select the input signal corresponding to the source component.**

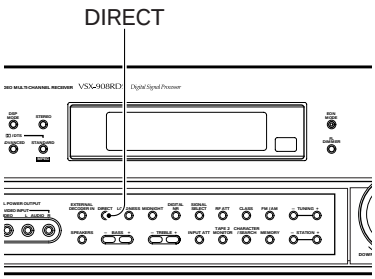
(See "Switching ANALOG/DIGITAL Signal Input" on p. 41.)

6 **Start playback of the component you selected in step 1.**

7 **Adjust the volume by using the VOLUME buttons on the remote control or the MASTER VOLUME on the front panel.**

Memo If you are not able to get sound from the receiver, make sure the input is set to the appropriate ANALOG or DIGITAL setting with the SIGNAL SELECT button. Refer to page 41 for more on this.

Direct playback



Press the DIRECT button to put the receiver in the DIRECT mode. This mode will give you the most accurate reproduction of two-channel sources.

Memo None of the tone controls or other sound modes can be used.

Sound Modes

The six sound modes on the receiver are explained here. These can be turned on from the front panel or from the remote control.
There are four cinema modes: MPEG, STANDARD, HOME THX CINEMA and ADVANCED THEATER. These are designed to be used with multi channel surround sound audio/visual sources (like DVDs and LDs). Intrinsic to home theater, these modes can deliver realistic and powerful surround sound that recreates the movie theater experience. You may need to experiment with them to see which settings suit your home system and personal tastes.
The DSP and STEREO modes are designed to be used with music sources but some DSP modes are also suited for film soundtracks. Again, try different settings with various soundtracks to see which you like.
You must choose one of the four cinema modes or the DSP mode in order to get surround sound. In STEREO mode only the front two speakers are used.

MPEG mode

Use this mode to enjoy playback of software recorded in MPEG audio. For more detailed information, see p.74.

STANDARD mode

This mode is for pure decoding of Dolby Digital, DTS and Dolby Pro Logic. No special effects are added. It is good for enjoying movies that have been recorded in Dolby Digital, DTS or Dolby Surround.

HOME THX CINEMA mode

THX is a set of technical standards created by Lucasfilm, Ltd. These standards were designed to emulate a film sound stage and thus reproduce, with the greatest possible accuracy, the soundtrack intended by the filmmakers. For more detailed information, see p.74.

ADVANCED THEATER modes

The Advanced Theater mode is a newly designed system for enhancing movie soundtracks and other audio-visual sources. It incorporates the use of DTS (Digital Theater System) as well as Dolby Digital into its sound processing. These functions switch on automatically when the source you are playing is encoded with DTS, Dolby Pro Logic or Dolby Digital (bearing the DOLBY DIGITAL logo). There are four Advanced Theater settings that use DSP (Digital Signal Processing) to create different types of sound environments.

MUSICAL

This mode is primarily for music and adds a spacious feeling to the sound. A long delay time of reflected sounds, provides resonant tones which emulate a concert hall.

DRAMA (CINEMA)

This mode is designed for movies with a lot of dialog. The elements of dialog are enhanced, making the characters seem more real. The mode also compresses the dynamic range somewhat so loud sounds do not overpower softer ones (compare this with the MIDNIGHT Listening mode explained on p.43).

ACTION

This mode is designed for action movies, which generally use lots of sound effects. The mode enriches the sound to make it more realistic and extends the parameters to pick up high and low sound effects.

5-D THEATER

This mode is especially designed to give sound depth to stereo sources. The overall effect builds a dynamic and broad sound space, allowing two-channel (stereo) signals to faithfully imitate a five speaker sound. The mode should be used in conjunction with Dolby Pro Logic for sources bearing the DOLBY SURROUND mark.

Memo When a Dolby Digital soundtracks is played back, the Dialog Normalization function of the receiver activates automatically. Dialog Normalization is a Dolby Digital function that establishes the average dialog level for the program source being played. If the receiver's level does not match the average dialog level, first you see "DIAL.NORM" flashes and then "OFFSET +4dB" (as an example) appears in the receiver's display. The number +4dB is the difference between the receiver's gain structure and the Dolby Digital average dialog level. To match the average dialog level, subtract or add the OFFSET level. For example, if the OFFSET level is +4dB, turn the MASTER VOLUME dial down so 4dB is subtracted from the current level.

DSP modes

The DSP (Digital Signal Processing) modes allow you to transform your living room into a variety of different sonic environments when playing either two-channel or multi-channel sources.

HALL 1

Simulates the acoustic effects of a large concert hall. Suitable for classical music.
A long delay time of reflected sounds, coupled with reverb effects, lets the listener enjoy the dynamic and rich sounds characteristic of concert halls and powerful orchestral performances.

HALL 2

Simulates the acoustic environment of a very resonant concert hall. Rich reverberation and a full sound create the impression of a lively performance space.

JAZZ

Simulates the acoustic effects of a jazz club. Reflected sound is virtually below 100 msec so that the listener can enjoy a live band effect.

DANCE

Simulates the acoustic effects of a dance club. Features a strong bass sound.
Reflected sound delay time is virtually below 50 msec, for the listener to enjoy the the visceral power of dance music.

THEATER 1

Reproduces theater sound field effects without losing the localization of each channel. Theater effects can be enjoyed without losing Dolby Digital/ Pro Logic effects when used in combination those formats (with movies bearing the DOLBY SURROUND trademark).

THEATER 2

Simulates the acoustic environment of a theater while maintaining proper localization of each channel.

Stereo mode

Use the STEREO mode to enjoy standard (two-channel) stereo sound from the front left and right speakers.

This mode also allows you to :
- Use the BASS and TREBLE tone controls
- Use DIRECT for truer reproduction of the original recording.
- Use DIGITAL NR.

See display explanations on p.20-21 and front panel explanations on p.18-19 for details on SPEAKERS (A/B), LOUDNESS, BASS (–/+) and TREBLE (–/+).

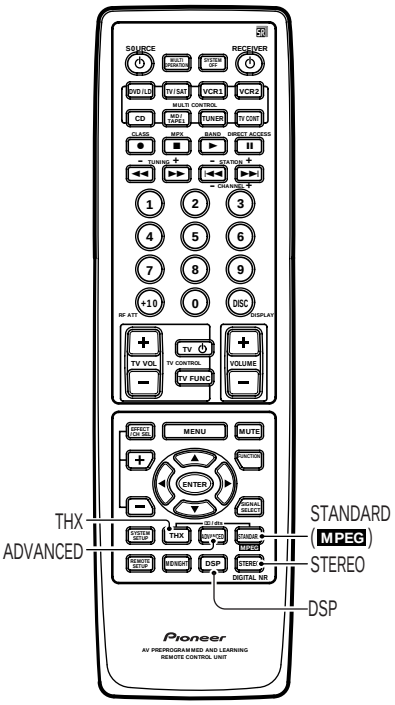
Memo When listening to Dolby Digital or DTS sources, DIGITAL NR do not function even if you select STEREO.

Before operating the receiver, be sure to press the main power button on the front panel to turn the power ON (⏻).

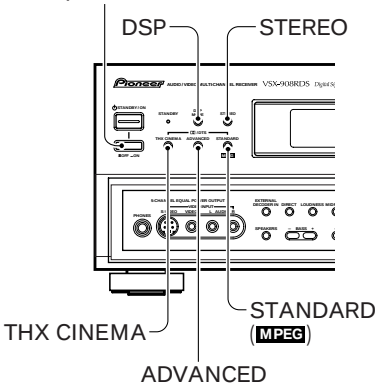
Selecting a Sound Mode

To ensure the best possible surround sound, be sure to complete the set up procedures described in "Setting Up for Surround Sound" (starting on page 25) before using the sound modes. This is particularly important when using the DD (Dolby) Digital or DTS sources. When using the sound modes, SPEAKERS A will give the best results. If you use SPEAKERS B, the sound will be down-mixed to the two front B speakers and the surround sound effect will be lost.

Surrround operation



Main power button



1 Select the sound mode.

- For HOME THX CINEMA ➡Press THX.
- For ADVANCED THEATER ➡Press ADVANCED.
  Each press changes the ADVANCED THEATER mode as follows:

MUSICAL → DRAMA → ACTION → 5-D THEATER → MUSICAL

- For STANDARD ➡Press STANDARD (MPEG).
- For MPEG ➡Press STANDARD (MPEG) repeatedly.
  Each press changes the mode as follows:

STANDARD ⇄ MPEG

- For DSP modes ➡Press DSP repeatedly.
  Each press changes the DSP mode as follows:

HALL 1 → HALL 2 → JAZZ → DANCE → THEATER 2 → THEATER 1 → HALL 1

- For STEREO ➡Press STEREO.

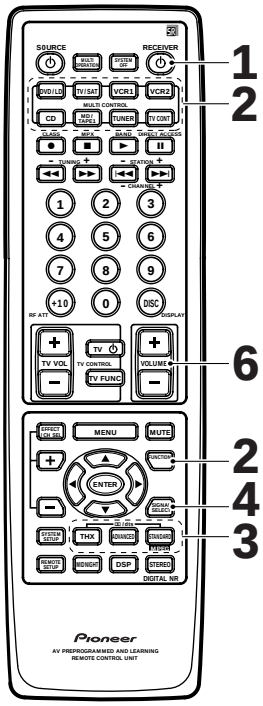
Memo

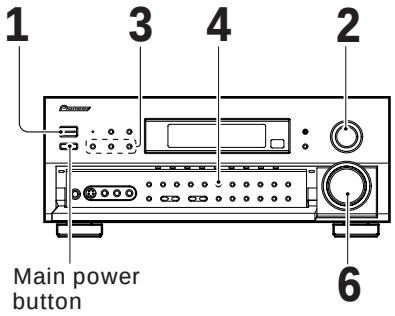
- The effects of ADVANCED THEATER mode can be adjusted in the range of 10 to 90 by pressing EFFECT –/+. (The default setting is 70). Also, the effect level can be set in each ADVANCED THEATER mode by pressing the EFFECT(–/+) button. 5-D THEATER modes cannot be changed.
- The amount of effect of each DSP mode can be adjusted in the range of 10 to 90 (the default setting value is 70) by pressing EFFECT –/+.
- When a digital input is selected, using some discs with a huge amount of information may cause the overload indicator to light up. If the overload indicator is lit, the signal may be distorting. To ensure there is no distortion, you can switch to the STANDARD mode.

Before operating the receiver, be sure to press the main power button on the front panel to turn the power ON (⏻).

Playing Sources with Dolby Digital, DTS Sound or MPEG Audio

The following instructions show you how to play Dolby Digital, DTS sound or MPEG Audio sources with the receiver.





1 **Turn on the receiver.**

2 **Press the MULTI CONTROL buttons or the FUNCTION button on the remote control or turn the INPUT SELECTOR dial to select the source you want to play back.**

The FUNCTION button cycles through the sources in the following order:

DVD/LD → TV/SAT → CD → MD/TAPE 1 → TUNER → VCR 2 → VCR 1 → VIDEO → PHONO →

3 **Choose a sound mode by pressing the THX, ADVANCED or STANDARD(MPEG) button.**

(For more see "Sound Modes" p. 36-37.)

4 **Press the SIGNAL SELECT button on the remote control or on the front panel to select the input signal corresponding to the source component.**

(See "Switching ANALOG/DIGITAL signal input" on p. 41.)

5 **Play a source (for example, a DVD player).**

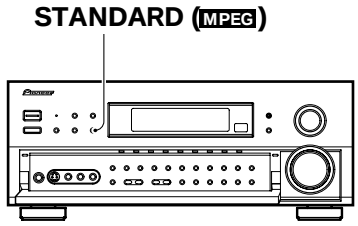
6 **Adjust the volume by using the volume buttons on the remote control or the MASTER VOLUME on the front panel.**

Memo

- We recommend using different modes for different types of DTS material. For watching movies, the THX or ADVANCECD THEATER setting should provide the best results. For listening to music, the STANDARD, DIRECT, STEREO, or DSP modes should serve the listener best.
- Make sure you connect your DVD/LD or LD player using the AC-3 RF jack. If your player has an AC-3 RF output, this will ensure you can use all LDs. For more detailed information, see p.10, 11, and 34.

Using MPEG audio discs

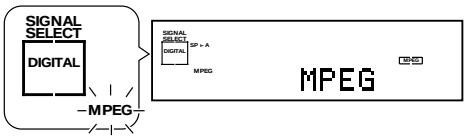
The receiver can decode a variety of different types of audio formats for DVDs and these include MPEG. MPEG is a highly sophisticated audio encoding system which some discs use. If the disc you are using has MPEG audio (it will be marked on the disc) switch the receiver to the MPEG using the procedure below. If you try to play an MPEG audio disc in any mode other than the MPEG, no sound will be heard.



If the receiver is not in the STANDARD mode, put it in that mode by pressing the STANDARD (MPEG) button.

Each press switches between regular STANDARD mode and MPEG mode.

"MPEG" will light up in the main display to confirm you are in MPEG mode. After that a small "MPEG" will appear in the bottom left of the display window where "AC-3" or "DTS" would appear if you were in one of those modes. If this "MPEG" display is flashing it means the MPEG signal is not being received.

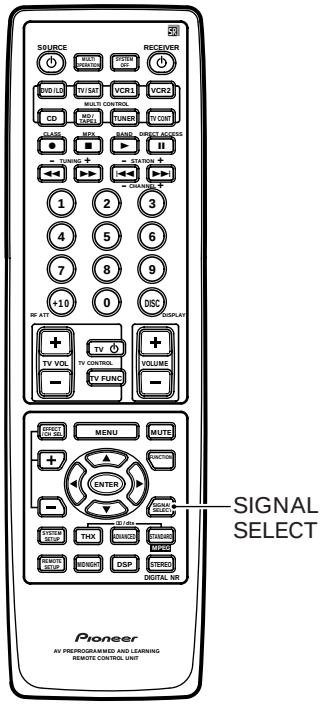


Memo

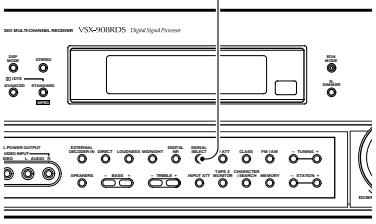
- If the disc you are using is not an MPEG disc or there is some other problem, the small "MPEG" display will flash. This will also happen when the disc is paused.
- You can't use any other sound mode (ADVANCED THEATER, STANDARD, etc., when using the MPEG mode.
- If you use a disc that is not MPEG when the receiver is in the MPEG mode, no sound will be heard.

Switching ANALOG/DIGITAL Signal Input

This switch moves the input fed to the receiver between analog, digital and AC-3RF sources. You need to take special care to switch to the appropriate input, when necessary. For example, the switch would have to be on digital to use DOLBY DIGITAL or DTS surround sound but it would have to be on analog to record from the analog out jacks on the receiver. The default setting is AUTO (which chooses digital when all three are available but goes with whatever is available if it is the only choice).

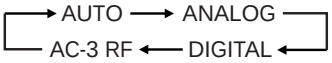


SIGNAL SELECT

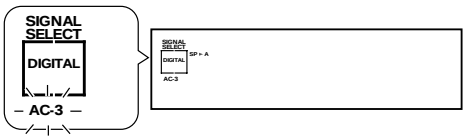


Press the SIGNAL SELECT button on the remote control or on the front panel to select the input signal corresponding to the source component.

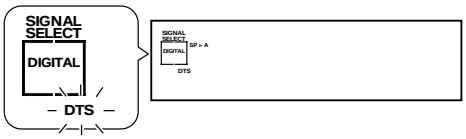
Each press switches the signal in the order below:



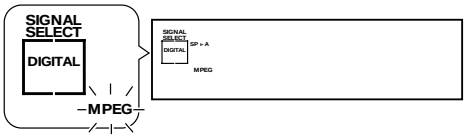
While SIGNAL SELECT is set to DIGITAL, AC-3 lights when a Dolby Digital signal is input, DTS lights when a DTS signal is input, or MPEG lights when an MPEG signal is input.



When a Dolby Digital signal is input.



When a DTS signal is input.



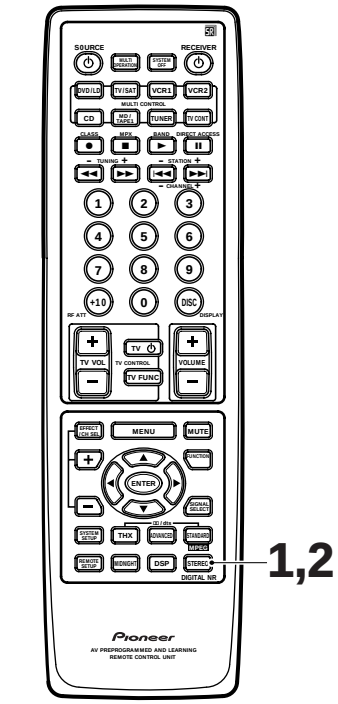
When a MPEG signal is input.

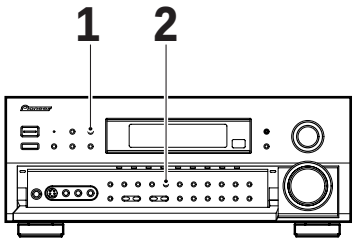
Memo

- In the AUTO setting, SIGNAL SELECT chooses the signal in the following order: AC-3RF, DIGITAL, ANALOG.
- If the Digital-In Select (see p.34) choices are set to OFF, the SIGNAL SELECT will default to ANALOG.
- Because the audio from a karaoke microphone and LD recorded with analog audio only is not output from the digital output, set SIGNAL SELECT to “ANALOG”.
- This receiver can only play back Dolby Digital, PCM (32kHz, 44kHz, 48kHz, and 96kHz), DTS or MPEG digital signal formats. It cannot play back digital signals other than these so for those formats, you will have to play them back in an analog manner (making sure your equipment is hooked up with analog connections and the SIGNAL SELECT is set to “ANALOG.”
- When an LD or CD with DTS is played back with the SIGNAL SELECT set to “ANALOG,” digital noise caused by playing back the DTS directly (with no decoding) is output. To prevent noise, you need to make digital connections (See p. 10-11) and set SIGNAL SELECT to “DIGITAL”.
- Some DVD players don’t output DTS signals. For more details, refer to the instruction manual supplied with your DVD player.
- The SIGNAL SELECT is fixed to DIGITAL in the MPEG audio mode.

Reducing noise during playback (DIGITAL NR function)

To reduce extraneous noise, switch on DIGITAL NR. This noise reduction can only be used in the STEREO mode.

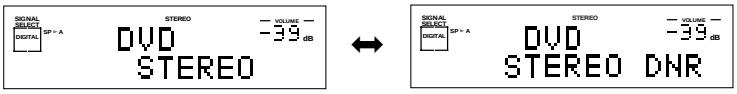




1 Press the STEREO button on the remote control or on the front panel.

2 Press the DIGITAL NR button on the remote control or on the front panel.

Each press switches DIGITAL NR on or off.



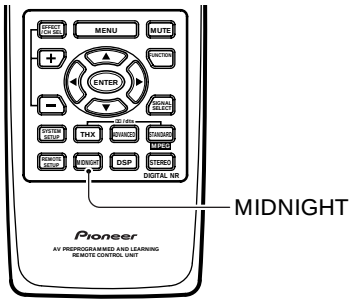
Memo

- When DIGITAL NR is on and Dolby Digital, DTS or MPEG signals are input, DIGITAL NR is automatically switched off.
- In cases described below, noises may not be reduced even if DIGITAL NR is on.
  - Sudden noise
  - Extremely loud noise
  - Signals that do not contain many high frequencies
- For each source, DIGITAL NR is effective at and above levels shown below.
  - Cassette tape ..... 20 dB
  - Video tape ..... 15 dB
  - AM tuner ..... 10 to 15 dB
  - FM tuner ..... 15 to 16 dB

* Depending on the condition of the source, there may not be a noticeable improvement in the quality of the sound.

Listening in MIDNIGHT Listening mode

This feature makes it possible to get excellent surround sound effects even when listening at low volumes. It can be used with a variety of surround sound sources and plays soundtracks so that the quieter sounds are audible while the noisier sounds do not become overly loud or distorted. It does this by bringing all the sounds in a given soundtrack closer together in volume. Compare this feature with the D-Range Control (only for Dolby Digital sources) on p. 33.

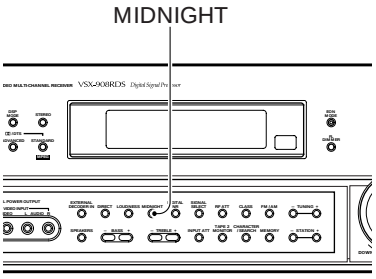


Press the MIDNIGHT button.

Each press switches MIDNIGHT Listening mode on or off.

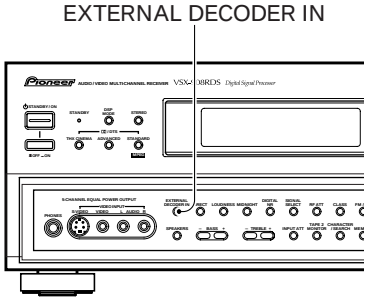
Memo

- The effect adjusts itself automatically in accordance with the volume level.
- You cannot use the MIDNIGHT Listening mode with the THX, DIRECT or EXTERNAL DECODER mode.



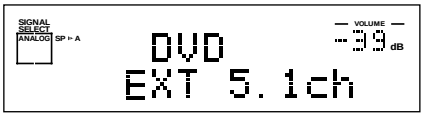
External decoder playback (front panel only)

This feature allows you to connect an external decoder to enjoy certain types of specialized discs.



Press the EXTERNAL DECODER IN button.

Each press switches the input between the previous mode and EXTERNAL DECODER.



Memo

When EXTERNAL DECODER is selected, only the volume level and channel levels can be set. All of this unit's other features (DSP modes, ADVANCED THEATER modes, DIRECT mode, TONE controls, etc.), as well as the TUNER and PHONO modes, cannot be used. All speaker settings and other setups settings have no effect.

96kHz 24bit performance

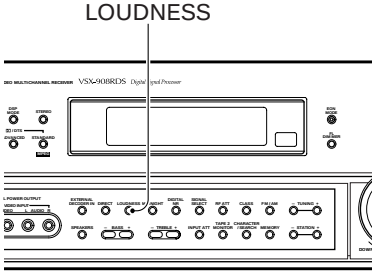
This receiver is capable of playing back advanced DVD discs which are recorded in 96kHz/24 bit format (all these are stereo discs). The receiver will automatically read the format of the disc and play accordingly (of course the SIGNAL SELECT has to be set to AUTO or DIGITAL to read the DVD soundtrack). When the receiver plays a 96kHz/24 bit disc "96kHz" appears in the display. If you try to use one of the functions or modes mentioned below, "96kHz" will light on the display, as shown below, indicating that the procedure is not possible.

Memo

- When a 96kHz/24 bit disc is played back, the volume may be louder than that of a normal disc.
- Some DVD players cannot play 96kHz/24 bit discs. Check the manual of your DVD player to make sure.
- During this playback you cannot use the tone controls, the DIRECT function, the LOUDNESS function, any of the sound modes, or any of the effect modes.
- With 96kHz/24 bit discs you are able to use 5.1 ch EXTERNAL DECODER playback and the TAPE 2 MONITOR.

Listening in LOUDNESS mode (front panel only)

The LOUDNESS mode allows you to boost the bass in a signal. It is useful for listening to music at low volumes.



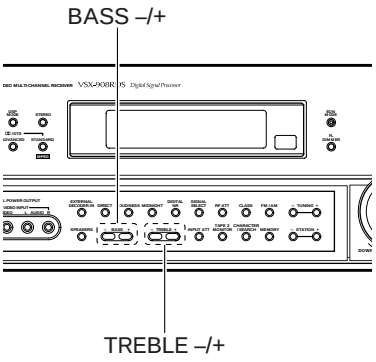
Press the LOUDNESS button.

Each press switches LOUDNESS mode on or off.

Memo You cannot use the LOUDNESS mode with the THX, DIRECT or EXTERNAL DECODER mode.

Adjusting bass and treble (tone control) (front panel only)

Use BASS (–/+) or TREBLE (–/+) to adjust the low and high frequencies (the receiver must be in the STEREO mode).



Press the BASS (–/+) buttons to adjust the low frequencies.

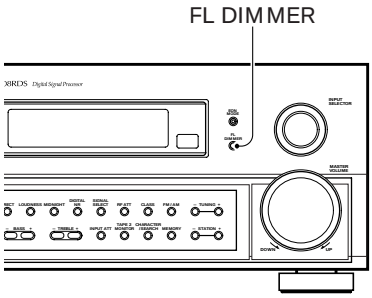
Press the TREBLE (–/+) buttons to adjust the high frequencies.

Memo

- The tone control can be adjusted in a range of ±6 dB.
- The tone control cannot be adjusted in the STANDARD, ADVANCED THEATER modes as well as DSP, THX, EXTERNAL DECODER, DIRECT, and 96kHz settings.

Adjusting the brightness of the display (front panel only)

Use the FL DIMMER button to adjust the brightness of the fluorescent display (FL=fluorescent display).



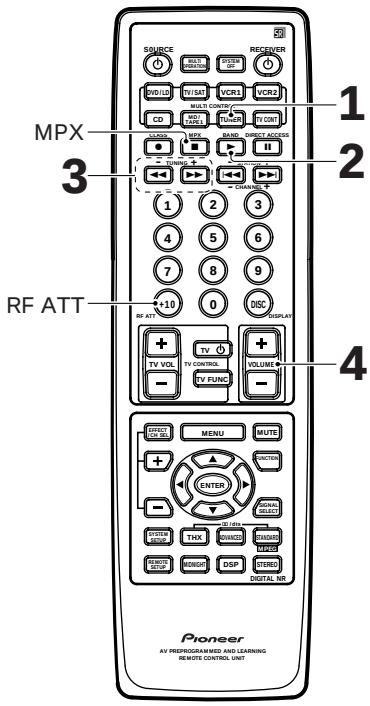
Press the FL DIMMER button.

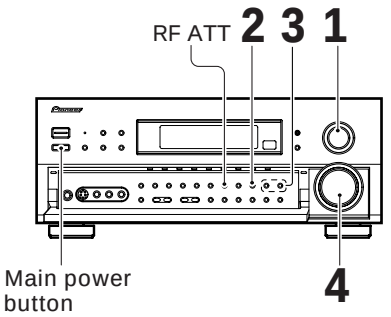
Four levels of brightness ranging from very dim to very bright can be selected. Each press changes the brightness of the display.

Before operating the receiver, be sure to press the main power button switch on the front panel to turn the power ON (⏻).

Automatic and Manual Tuning

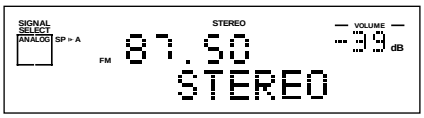
The following steps show you how to tune in FM and AM radio broadcasts using the automatic (search) and manual (step) tuning functions. If you already know the exact frequency of the station you desire, see "Direct Access Tuning" on the following page.





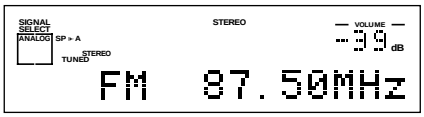
1 Press the TUNER button on the remote control or turn the INPUT SELECTOR dial on the front panel.

This selects the TUNER function on the receiver and sets the remote control to the TUNER operation mode.



2 Press the BAND button on the remote control or the FM/AM button on the front panel to select the band (FM or AM).

Each press switches the band: FM ⟷ AM



3 Tune in the station.

For Automatic Tuning

Press and hold the TUNING –/+ buttons for about one second, then release. The tuner starts searching the selected band and stop automatically at the first station it locates. Repeat to locate other stations.

For Manual Tuning

- To change frequencies one step at a time, press the TUNING –/+ button repeatedly.
- To change frequencies quickly, hold down the TUNING –/+ button and release when you reach the frequency you desire.

4 Adjust the volume.

MPX mode

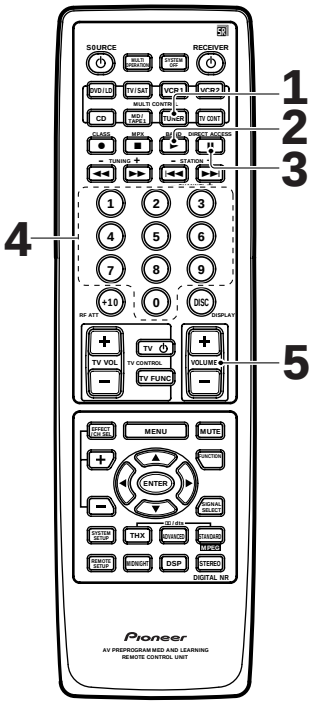
If the TUNED or STEREO indicators do not light when tuning an FM station, because the station is too far away or the broadcast signal is weak, press MPX on the remote control to switch to MONO reception. This should improve reception enough for you to enjoy the broadcast.

RF ATT mode

Press the RF ATT button to turn the RF attenuator on to reduce sound distortion when receiving strong FM signals from nearby staions. Normally, this button should be set to off. This button does not affect AM reception.

Direct Access Tuning

The following steps show you how to tune directly to a specific frequency using the remote control.



1 Press the TUNER button.

This selects the TUNER function on the receiver and sets the remote control to the TUNER operation mode.

2 Press the BAND button on the remote control or the FM/AM button on the front panel to select the band (FM or AM).

Each press switches the band : FM ⬌ AM

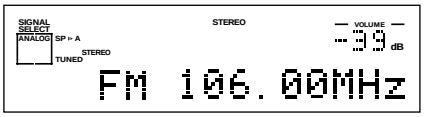
3 Press the DIRECT ACCESS button to activate the Direct Access Tuning mode.

The cursor blinks in the display on the front panel.

4 Use the number buttons to enter the frequency of the station you desire.

Example:

To tune into station 106.00 (FM), press: ① → ⓪ → ⑥ → ⓪ → ⓪



To cancel before inputting the frequency

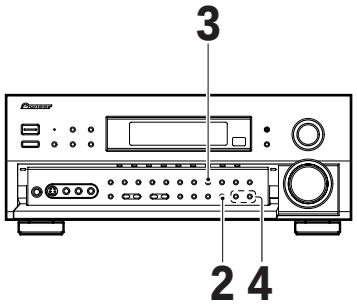
Press DIRECT ACCESS, and enter the frequency again.

5 Adjust the volume.

Memorizing Frequently Used Stations

The following steps show you how to memorize up to 30 radio stations in 3 classes (each holding 10 channels). When memorizing FM frequencies, the receiver also memorizes the MPX mode (STEREO or MONO for FM only) and RF ATT mode (FM only).

Using the front panel



1 **Tune in the desired station.**

See “Automatic and Manual Tuning” or “Direct Access Tuning” on pages 46 and 47.

2 **Press the MEMORY button to activate the memory function.**

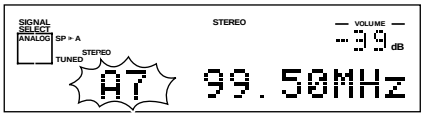
3 **Press the CLASS button to select a class number.**

Each press switches the display:

CLASS A → CLASS B → CLASS C →

4 **Press the STATION –/+ buttons repeatedly to select a channel (1~9, 0) within the respective class.**

The station is memorized automatically after 5 seconds.



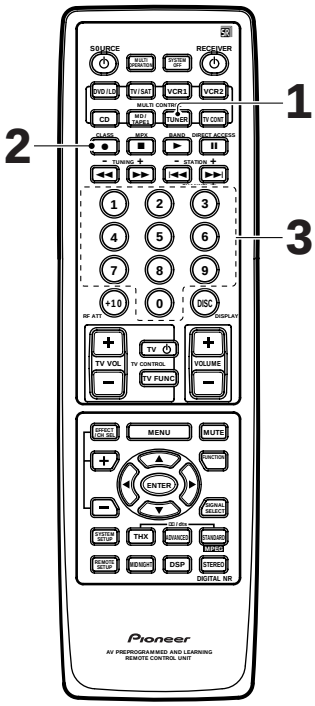
If you want to escape from the MEMORY mode

Press the MEMORY button again.

Repeat steps 1 through 4 to memorize up to 30 stations.

Recalling Memorized Stations

Using the remote control



1 Press the TUNER button.

This selects the TUNER function on the receiver and sets the remote control to the TUNER operation mode.

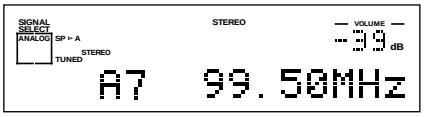
2 Press the CLASS button repeatedly to select a class number.

Each press switches the display:

CLASS A ⟶ CLASS B ⟶ CLASS C ⟶ (back to CLASS A)

3 Use the number buttons to select the channel you desire.

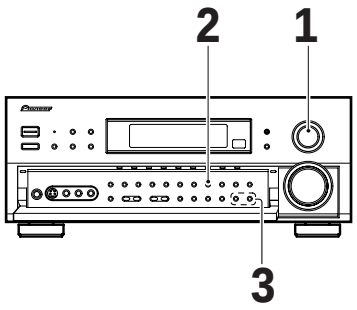
To select channel 7, press ⑦.
To select channel 10, press ⓪.
For example : If 99.50 MHz (FM) was memorized in class A at channel 7.



To skip through each channel in order

Press STATION –/+ repeatedly.

Using the front panel



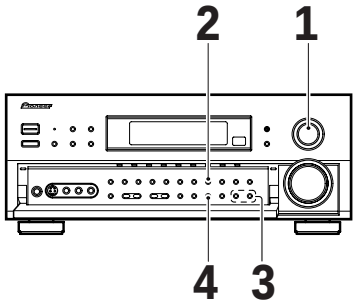
1 Select TUNER by turning the INPUT SELECTOR dial.

2 Press the CLASS button repeatedly to select a class number.

3 Press the STATION –/+ button repeatedly to select the channel you desire.

Memorizing a broadcast station name (Manual Station Name Memory)

Memo
- You can input a name of up to four characters for each preset broadcast station (see pages 48).
- The memorized name takes priority over PS data.

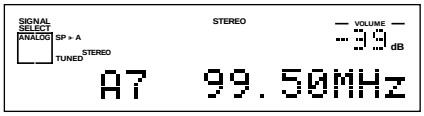


1 Select the TUNER function

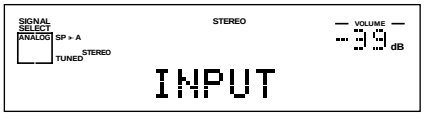
2 Press the CLASS button repeatedly to select a class.

CLASS A → CLASS B → CLASS C

3 Press the STATION +/– buttons to select the preset channel.



4 Press the CHARACTER/SEARCH button to select the character input mode.



* When it is set to OFF, frequency being received will be displayed.

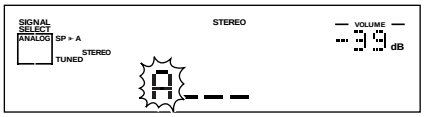
When FM is selected:

SEARCH → OFF → INPUT → (Character input mode)

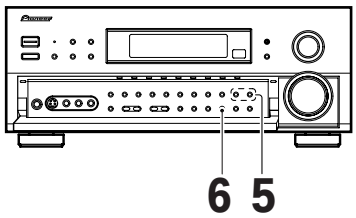
When AM is selected:

OFF → INPUT → (Character input mode)

5 Press the TUNING +/– buttons to enter the broadcast station name.



Refer to “Character display used for station name input” on p.77.



6 Press MEMORY to input the first of four characters. After four characters have been entered, the character input mode is exited.

Repeat steps 2 to 4 to memorize up to 30 broadcast station names.

To erase and change the memorized station name

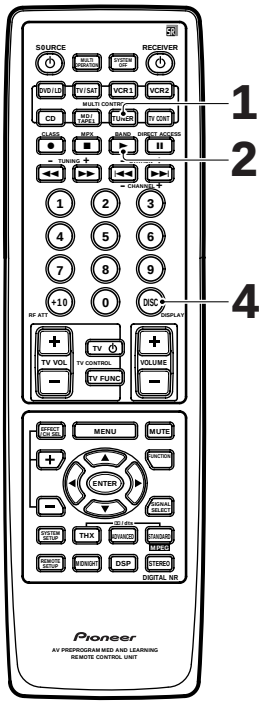
Perform the procedures of “Memorizing a broadcast station name” and enter four spaces to erase the memorized station name.
When you want to change a memorized station name, input the new station name using the same procedure.

Memo For greater convenience, record memorized station names in the STATION CALL button “memo” on p.77.

RDS (Radio Data System) Broadcast Reception

Refer to page 75 for more information about RDS (Radio Data Sytem) operation.

Displaying the RDS data



1 Press the TUNER button.

This selects the TUNER function on the receiver and sets the remote control to the TUNER operation mode.
The previously tuned station is received automatically.

2 Press the BAND button on the remote control or the FM/AM button on the front panel to select FM.

Each press switches the band: FM ⇔ AM

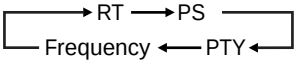
3 Tune into a station.

Refer to “Automatic and Manual Tuning” or “Direct Access Tuning” on pages 46 and 47.

- If the received broadcast transmits RDS data, the RDS indicator lights, and the data of the display mode appears in the display.

4 Press DISPLAY to select a mode.

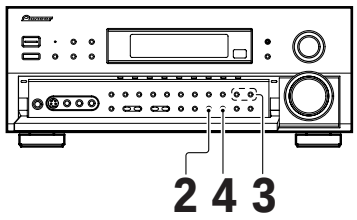
Each press changes the display as follows:



Memo

- In the RT mode, should any noise be picked up while displaying the RT scroll, some characters may temporarily be incorrectly displayed.
- In the RT mode, when no RT data is transmitted from a broadcast station, “NO RADIO TEXT DATA” is displayed once and after that the PS data is displayed.
- In the PTY mode, there are cases where “NO TYPE” is displayed. In this case, it will automatically switch to the PS mode after a few seconds.
- When reception conditions are strong, and RDS data is incorrectly displayed, press RF ATT.

Searching for a program by program type (PTY)



1 Tune into an FM station.

Refer to “Automatic and Manual Tuning” or “Direct Access Tuning” on pages 46 and 47.

2 Press the CHARACTER/SEARCH button to select the PTY search mode.

* When it is set to OFF, the frequency being received is displayed.

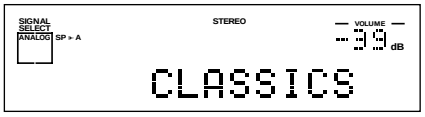
When the STATION mode is selected:

OFF → INPUT → SEARCH (PTY search mode) → OFF

When the FREQUENCY mode is selected:

OFF → SEARCH (PTY search mode) → OFF

3 Press the TUNING +/– buttons to select the desired program type.



* Refer to page 76 for program types.

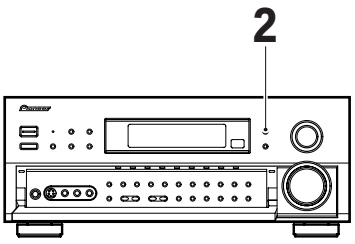
4 Press the MEMORY button to search for the selected program type.

This will search the preset stations for a station broadcasting the selected program type. Press the MEMORY button within 5 seconds after a program has been found. If the MEMORY button is not pressed, the function will begin to search for another station automatically.

Memo

This function searches RDS station preset in the 30ch memory. If this function is set when no stations have been preset, “NO PTY” will be displayed. If the desired PTY could not be found amongst the RDS stations in memory, the same display appears.

Setting EON

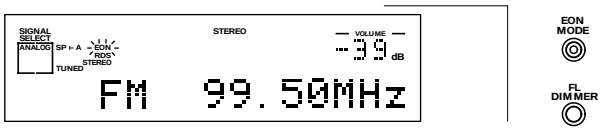


Refer to page 75 for more information about EON.

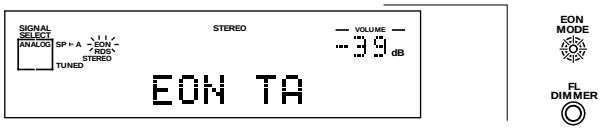
1 Tune into an EON FM station.

Refer to “Automatic and Manual Tuning” or “Direct Access Tuning” on pages 46 and 47.

- Even if the EON mode is off, when an FM station is broadcasting a news of traffic information program, the EON indicator lights in the display to inform you that the currently tuned station carries the EON data service.



2 Press the EON MODE button to select the mode.



Each press changes the display as follows:

EON TA → EON NEWS → OFF

- When EON is set to OFF, the frequency being received will be displayed, and then the RDS data will be displayed in the present display mode.

Memo

- The EON mode is canceled if you switch to AM reception while setting EON. Start once again after you return to FM reception.
- Simultaneous requests for Traffic Information (TA) and News programs is not possible.
- You cannot operate the MEMORY and CHARACTER/SEARCH buttons while the EON MODE indicator on the button lights.
- Functions other than TUNER cannot be changed while the EON MODE indicator on the button blinks (while receiving EON broadcast). If you want to change to a source other than TUNER, press the EON MODE button and turn the EON mode off.
- When you are playing back TAPE 2 while setting EON, TAPE 2 will be canceled by reception of EON. The function returns once more to TAPE 2 after EON reception is finished.
- When EON is turned on and a function other than the tuner is selected, the function will switch to the FM station automatically when Traffic Information or News begins. When the program ends, the original function will be restored.
- When the EON mode is on, the EON MODE indicator on the button lights. During reception of the selected news or traffic information broadcast, the EON MODE indicator on the button blinks.

Before operating the receiver, be sure to press the main power button on the front panel to turn the power ON (▂).

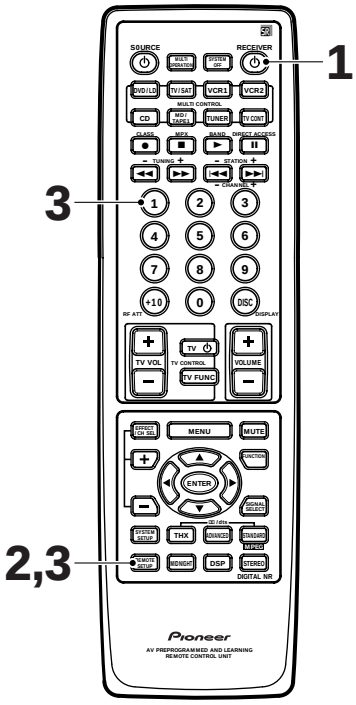
Setting Up the Remote Control to Control Other Components

In addition to controlling the receiver, the supplied remote control can operate your other components (VCR, TV, LD, CD, etc.) after you program it to do so. In this way, instead of fumbling with many different controls and buttons, you only need to use one remote control. If your component(s) are listed in the remote control's memory, simply follow the steps below. If your component(s) are not listed, or if you want the remote control to learn additional operations, you can use the learning mode to input the information from the remote controls supplied with your other components.

Recalling preset codes

The following steps show you how to recall preset codes stored in the remote control. Once a preset code is recalled and the component assigned, you can use this remote control to easily operate the component.

Memo See "Preset Code List" on p. 78-81 for the components and manufacturers available.

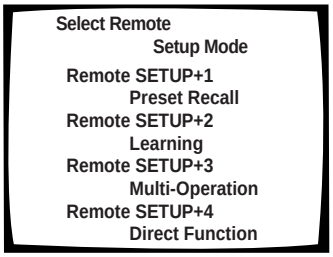


1 Turn on your TV and the receiver.

Make sure your TV is set to the appropriate video input (e.g. VIDEO 1).

2 Press the REMOTE SETUP button.

The **Remote Setup** menu appears on your TV screen.



You have four set up options:

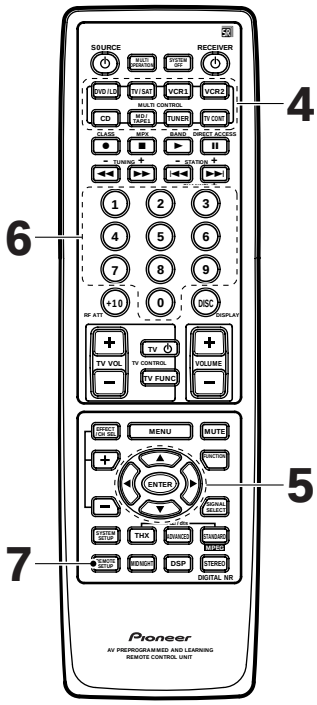
① **Preset Recall**
② **Learning**
③ **Multi Operation (See p.67), System OFF (See p.69)**
④ **Direct Function (See p.70)**

Preset Recall and Learning are the two modes that teach the remote control to operate your other components. It is easiest to start with **Preset Recall** and, if setup is not possible, move on to the **Learning** mode.

3 Press the REMOTE SETUP button and the ① button at the same time to select the Preset Recall setup mode.

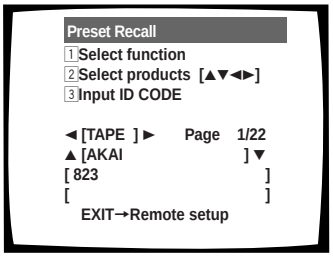
All the MULTI CONTROL buttons (except the TUNER button) start to blink.

To cancel the Preset Recall setup mode
Press the REMOTE SETUP button.



4 Press the MULTI CONTROL button for the component you want to control.

The selected button lights steadily and the first manufacturer (and preset code(s)) appear on your TV screen.



5 Press the ◄/► buttons to choose the function and then press the ▲/∞ buttons to display the name of the component's manufacturer.

Most manufacturers have been programmed into the receiver, but if your component is made by a small or relatively unknown manufacturer you may not be able to find it.

6 Point the remote toward the component to be controlled, and enter the 3-digit setup code.

When you enter the setup code, the remote control emits a power ON/OFF signal. If the component turns ON or OFF, you have entered the proper code.
If the component does not turn ON or OFF and there is more than one setup code, try inputting another code (starting again from step 4). Some manufacturers use several sets of remote control signals and the first code may not correspond to your component.

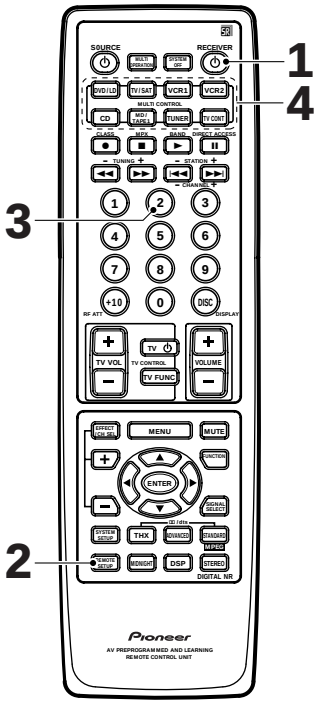
Repeat steps 4 through 6 to assign preset codes for as many components as necessary.
If you can not get your component to respond to any of the codes you can still program the component into the remote control using the procedure in the next section.

7 Press the REMOTE SETUP button to exit the Preset Recall setup mode.

The remote control and TV return to their previous operation modes.

Learning mode: Programming signals from other remote controls

If preset codes are not available for your component(s), or the available preset codes do not operate correctly, you can use this function to program in signals from the remote control(s) of your other component(s). This operation can also be used after recalling a preset code to program additional operations not covered in the preset codes.

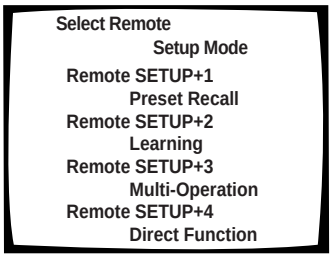


1 Turn on your TV and the receiver.

Make sure your TV is set to the appropriate video input (e.g. VIDEO 1).

2 Press the REMOTE SETUP button.

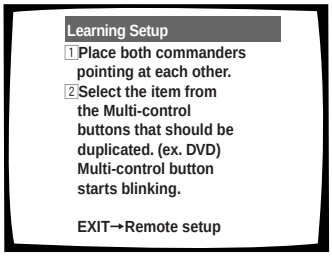
The **Remote Setup** menu appears on your TV screen.



3 Press REMOTE SETUP and (2) at the same time to select the Learning setup mode.

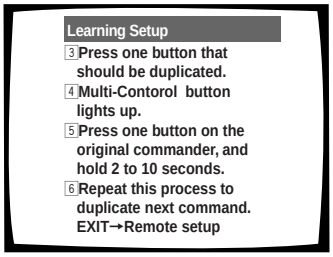
All the MULTI CONTROL buttons (except the TUNER button) start to blink.

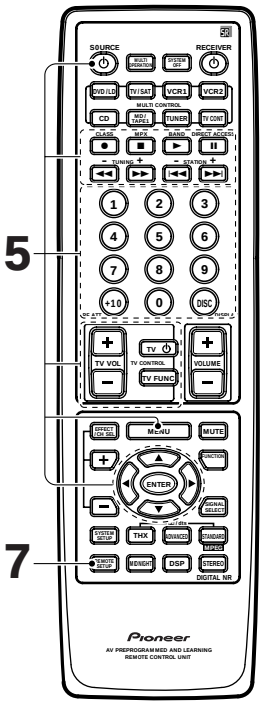
To cancel Learning Setup mode
Press the REMOTE SETUP button.


Learning Setup
1 Place both commanders pointing at each other.
2 Select the item from the Multi-control buttons that should be duplicated. (ex. DVD) Multi-control button starts blinking.
EXIT→Remote setup

4 Press the MULTI CONTROL button for the component you want to control.

Each button can be set to control one of the following components.
The selected button continues to blink.


Learning Setup
3 Press one button that should be duplicated.
4 Multi-Contorol button lights up.
5 Press one button on the original commander, and hold 2 to 10 seconds.
6 Repeat this process to duplicate next command.
EXIT→Remote setup



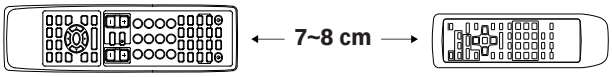
5 Press the button to be programmed.

The MULTI CONTROL button lights steadily.

- The TV POWER, TV FUNC and TV VOL +/– buttons are only available for learning TV CONTROL operations.

6 Point the remote controls at each other and press the button on the other remote control for the operation you wish to program .

① Point the remote controls toward each other.



② Hold down the button on the other remote control corresponding to the operation you wish to program. Release when the MULTI CONTROL button on the receiver's remote control starts blinking.
(The MULTI CONTROL button blinks to indicate that the operation has been learned.)

To program additional operations for the current component
Repeat steps 5 and 6.
To program operations for another component
Repeat steps 4 through 6.

7 Press REMOTE SETUP to exit the Learning setup mode.

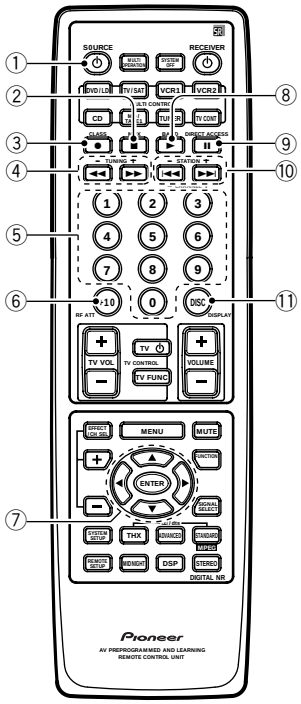
The remote control and TV return to their previous operation modes.

Remote Controlling Other Components

DVD or LD player operations

Memo

- The following operations are available from the receiver's remote control after you recall your DVD or LD player's preset code, but some operations may need to be learned by receiver (see "Setting Up the Remote Control to Control Other Components " on p.54-57).
- To perform these operations, press the DVD/LD button to set the remote control to the DVD or LD player operation mode.
- For more information on individual commands, consult the manual that came with the component.



① ⏻ **SOURCE**

Press to switch the DVD or LD player on or off.

② ■

Press to stop playback.

② ● **(TOP MENU)**

Press to call up the menu programed on the DVD (for a DVD player only).

④ **◄◄/►►**

◄◄Hold down for fast reverse playback.
►►Hold down for fast forward playback.

⑤ **Number buttons**

Use to select chapters (tracks).

⑥ **+10**

Use when selecting chapter (track) numbers higher than 10.

⑦ **▲/∞/◄/►/ENTER**

▲/∞/◄/►: Use to navigate through options on menu screens and to change settings.
ENTER : Use to implement settings selected with the cursor buttons or to set items highlighted in a menu (for DVD only).

⑧ ►

Press to start playback.

⑨ **II**

Press to pause playback.

⑩ **I◄◄/►►I**

I◄◄Press to return to the beginning of the current chapter (track). Press repeatedly to return to the beginning of previous chapters (tracks).
►►Press to advance to the beginning of the next chapter (track). Press repeatedly to advance to the beginning of following chapters (tracks).

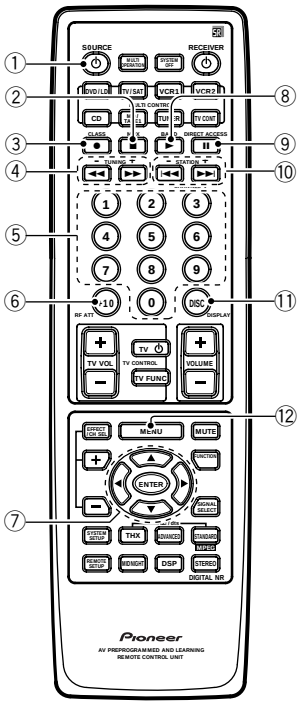
⑪ **DISC**

Use to change the LD between sides A and B (for LD only).

VCR and DVD video recorder operations

Memo

- The following operations are available from the receiver's remote control after you recall your VCR or DVD video recorder's preset code, but some operations may need to be learned by receiver (see "Setting Up the Remote Control to Control Other Components " on p.54-57).
- To perform these operations, press the VCR 1 or VCR 2 button to set the remote control to the VCR or DVD video recorder operation mode.
- For more information on individual commands, consult the manual that came with the component.



① ⏻ SOURCE

Press to switch the VCR or DVD video recorder on or off.

② ■

Press to stop playback or recording.

③ ●

Press to start recording.

④ ◄◄/►►

◄◄Hold down for fast reverse playback.
►►Hold down for fast forward playback.

⑤ Number buttons

Use to select channels.

⑥ +10

Use when selecting chapter (track) numbers higher than 10 (for DVD recorder only).

⑦ ▲/∞/◄/►/ENTER

▲/∞/◄/►: Use to navigate through options on menu screen and to change settings.
ENTER: Use to implement settings selected with the cursor buttons or to set items highlighted in a menu (for DVD video recorder only).

⑧ ►

Press to start playback.

⑨ II

Press to pause playback or recording.

⑩ CHANNEL –/+

Use to change channels on the VCR's tuner.

⑪ DISC (TV/VCR)

Use this button to switch the VCR between its tuner (for watching videos) and the TV.
Press to stop recording (DVD video recorder only).

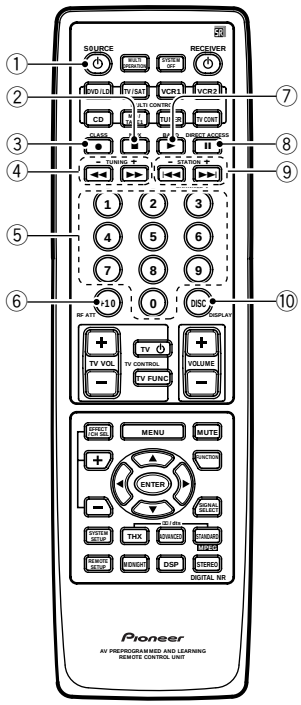
⑫ MENU

Use to display or close the title menu screen (for DVD video recorder only).

CD player operations

Memo

- The following operations are available from the receiver's remote control after you recall your CD player's preset code, but some operations may need to be learned by receiver (see "Setting Up the Remote Control to Control Other Components " on p.54-57).
- To perform these operations, press the CD button to set the remote control to the CD operation mode.
- For more information on individual commands, consult the manual that came with the component.



① ⏻ **SOURCE**
Press to switch the CD player on or off.

② ■
Press to stop playback.

③ ●
Press to start recording (for CD-R only).

④ ◄◄/►►
◄◄Hold down for fast reverse playback.
►►Hold down for fast forward playback.

⑤ **Number buttons**
Use to select tracks.

⑥ **+10**
You can also use this button when selecting track numbers higher than 10.

⑦ ►
Press to start playback.

⑧ ❚❚
Press to pause playback.

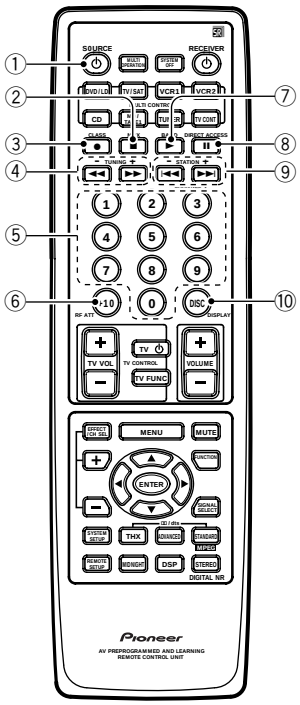
⑨ I◄◄/►►I
I◄◄Press to return to the beginning of the current track. Press repeatedly to return to the beginning of previous tracks.
►►IPress to advance to the beginning of the next track. Press repeatedly to advance to the beginning of following tracks.

⑩ **DISC**
Use to switch between discs with multi disc play.

MD operations

Memo

- The following operations are available from the receiver's remote control after you recall your MD recorder's preset code, but some operations may need to be learned by receiver (see "Setting Up the Remote Control to Control Other Components " on p.54-57).
- To perform these operations, press the MD/TAPE 1 button to set the remote control to the MD operation mode.
- For more information on individual commands, consult the manual that came with the component.



① ⏻ **SOURCE**

Press to switch the MD recorder on or off.

② ■

Press to stop playback or recording.

③ ●

Press to start recording (may put some decks in REC PAUSE mode).

④ ◄◄/►►

◄◄Hold down for fast reverse playback.
►►Hold down for fast forward playback.

⑤ **Number buttons**

Use to select tracks.

⑥ **+10**

You can also use this button when selecting track numbers higher than 10.

⑦ ►

Press to start playback.

⑧ ❚❚

Press to pause playback.

⑨ I◄◄/►►I

I◄◄Press to return to the beginning of the current track. Press repeatedly to return to the beginning of previous tracks.
►►IPress to advance to the beginning of the next track. Press repeatedly to advance to the beginning of following tracks.

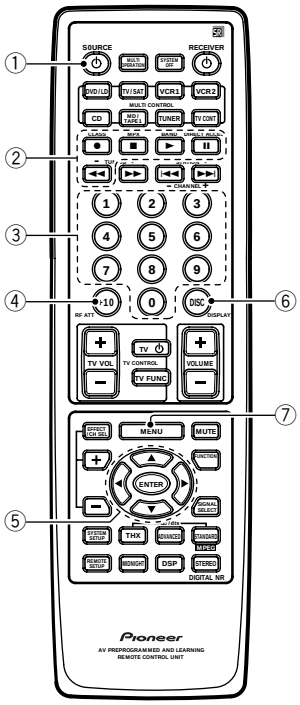
⑩ **DISC (DISPLAY)**

Allows you to change the display mode of the MD.

STB (Satellite Tuner) operations

Memo

- The following operations are available from the receiver's remote control after you recall your satellite tuner's (or cable TV's) preset code, but some operations may need to be learned by receiver (see "Setting Up the Remote Control to Control Other Components " on p.54-57).
- To perform these operations, press the TV/SAT button to set the remote control to the SAT operation mode.
- For more information on individual commands, consult the manual that came with the component.



① ⏻ **SOURCE**

Press to switch the Satellite Tuner on or off.

② **●/■/►/II/◄◄ (A/B/C/D/E)**

Use to make selections from Satellite functions.

③ **Number buttons**

Use to select satellite channels.

④ **GUIDE**

Use to turn the program information screen on or off.

⑤ **▲/∞/◄/►/ENTER**

▲/∞/◄/►: Press the button to select items on the SAT GUIDE screen or SAT MENU screen.
ENTER : Press to activate the selected function.

⑥ **EXIT**

Press to exit the current setting of the SAT.

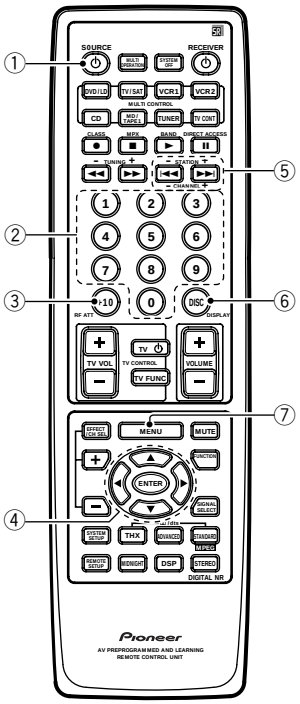
⑦ **MENU**

Use to turn the main menu on or off.

TV operations

Memo

- The following operations are available from the receiver's remote control after you recall your TV's preset code, but some operations may need to be learned by receiver (see "Setting Up the Remote Control to Control Other Components " on p.54-57).
- To perform these operations, press the TV/SAT or TV CONT button to set the remote control to the TV operation mode.
- For more information on individual commands, consult the manual that came with the your TV.



① ⏻ **SOURCE**

Press to switch the TV on or off.

② **Number buttons**

Use to select a specific TV channel.

③ **+10**

Use to select a specific TV channel.

④ **▲/∞/◄/►/ENTER**

▲/∞/◄/►: Press to select or adjust items on the menu screen.

ENTER : Press to activate the selected function.

⑤ **CHANNEL –/+**

Use to select a TV channel.

⑥ **DISC (CH ENTER)**

Use to select the channel specified with the number buttons (not all models require this step).

⑦ **MENU**

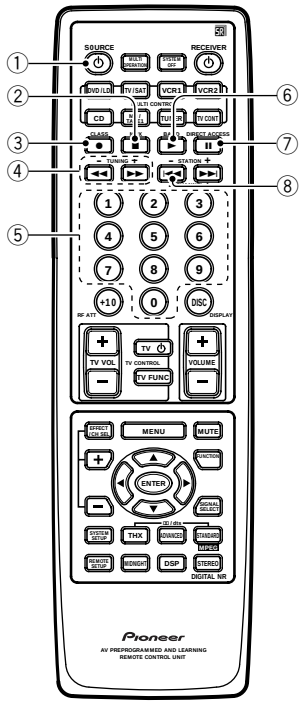
Press to select the TV menu.

Cassette deck operations

You can use this remote control to control most cassete decks, though with some models the functions may differ.

Memo

- The following operations are available from the receiver's remote control after you recall a cassette deck's preset code, but some operations may need to be learned by the receiver (see "Setting Up the Remote Control to Control Other Components," p. 54-57).
- To perform these operations, press the MD/TAPE 1 button to set the remote control to the TAPE operation mode.
- For more information on individual commands, consult the manual that came with the component.



① ⏻ **SOURCE**

Press to switch the cassette deck on or off (not possible with all models).

② ■

Press to stop playback or recording.

③ ●

Press to start recording.

④ ◄◄/►►

◄◄Press to rewind the tape.
►►Press to fast forward the tape.

⑤ **Number buttons (1-6)**

1: ■ (Press to stop playback or recording.)
2: ► (Press to start playback of the side of the cassette which has been loaded as the front.)
3: ❚❚ (Press to pause playback or recording.)
4: ◄◄ (Press to rewind the tape.)
5: ◄ (Press to start reverse playback.)
6: ►► (Press to fast-forward the tape.)

⑥ ►

Press to start playback of the side of the cassette which has been loaded as the front.

⑦ ❚❚

Press to pause playback or recording.

⑧ |◄◄

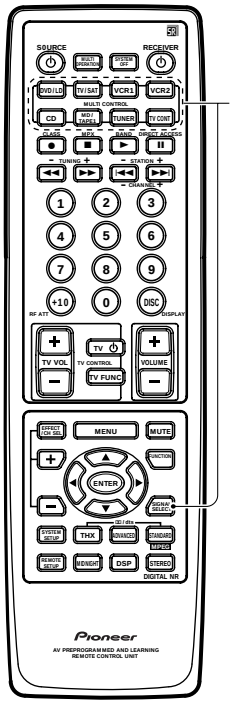
Press to start reverse playback (for auto reverse decks).

Before operating the receiver, be sure to press the main power button on the front panel to turn the power ON (⏻).

Recording from Audio Components

The following explanations show you how to record an analog audio signal with the component you connected to the MD/TAPE 1/CD-R or TAPE 2 MONITOR jacks. Note that you cannot record an component that is only connected digitally. If you want to record from a digital component it must be connected in an analog manner as well. If you want to record a digital signal see next page.

Memo The receiver's volume, channel level, tone (BASS, TREBLE, and LOUDNESS), and surround effects have no effect on the recorded signal, and the EXTERNAL DECODER input cannot be recorded.

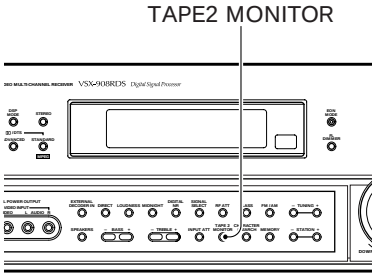


1 **Select the source component and put the receiver in that function. Press the SIGNAL SELECT button to select analog.**

Press the SIGNAL SELECT button on the remote control (or use the button on the front panel) and choose ANALOG. Recording DIGITAL or AC-3RF signals is not possible.

2 **Start recording with a TAPE or MD (etc.).**

3 **Play back the source to be recorded.**



Record monitor (TAPE 2 MONITOR)

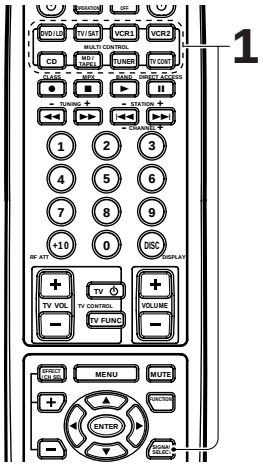
If you connect a cassette deck (etc.) with a record monitor function to the TAPE 2 MONITOR jacks, you can listen to the sound of the recording as it is recorded.

Press the TAPE 2 MONITOR button on the front panel to switch between the sound of the recording (TAPE 2 indicator on) and the sound of the source component (TAPE 2 indicator off).

Recording from Digital Audio Components

The following explanations show you how to record digital audio. Using this method you can make exact digital copies of sources like CDs or MDs. The only drawback is that you cannot switch between various recorders at the touch of a button like you can with analog recordings (see the previous page). If you look on the back of the receiver you will find a digital out jack which is marked PCM/DD/DTS/MPEG OUT(it is to the right of the digital in jacks in the upper left-hand corner). If you connect this to the optical input on a digital recorder (currently these include MD, DAT, and CD-R), you can make direct digital recordings with this unit. Of course, the digital components you want to record, all need to be connected to the receiver with digital inputs as well. See p.10-11 if you have not made these connections.

Memo The receiver's volume, channel level, tone (BASS, TREBLE, and LOUDNESS), and surround effects have no effect on the recorded signal.



1 **Prepare the source you want to record and put the receiver in that function. Set SIGNAL SELECT to digital.**

Press the SIGNAL SELECT button on the remote control (or use the button on the front panel) and choose DIGITAL.

2 **Start recording with a CD-R or MD (etc.).**

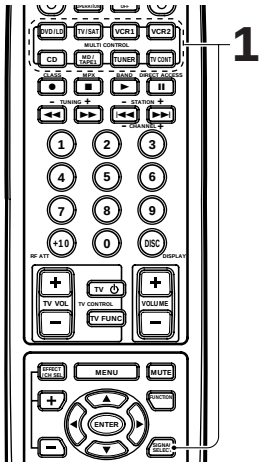
3 **Play back the source to be recorded.**

Memo In some cases, digital recordings have copy guard protections on them and making a digital copy is not possible. It is still possible to copy these digital sources if you have hooked the components up with analog connections (in this case, the copies will not be exact digital reproductions). Refer to the previous page in this case.

Recording from Video Components

The following operations show you how to record audio and video to the video tape recorder connected to the VCR 1 or VCR 2 jacks. Note that all signals coming out of these jacks will be analog and it is not possible to record DTS soundtracks.

Memo The receiver's volume, channel level tone (BASS, TREBLE, and LOUDNESS), and surround effects have no effect on the recorded signal.



1 **Prepare the source you want to record. Press the SIGNAL SELECT button to select to analog.**

Press the SIGNAL SELECT button on the remote control (or use the button on the front panel) and choose analog. Recording DIGITAL or AC-3 RF signals is not possible.

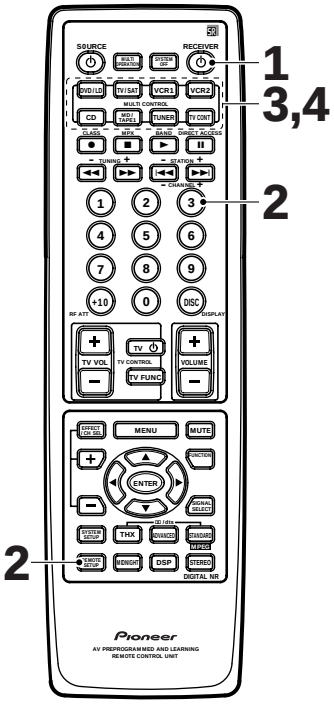
2 **Start recording with VCR 1 or VCR 2 (etc.).**

3 **Play back the source to be recorded.**

Multi Operations

Multi operations allow you to tell the receiver and your other components to do a number of things with the push of just two buttons on the remote control. For example, you can program the unit to turn on your TV, turn on your DVD player, go into a specific sound mode and start playing the loaded DVD. This feature allows you to decide which operations you want performed as well as the order in which you want them performed.
The steps below show you how to program a string of up to 5 different operations based on eight possible components. You do not need to program the power of this unit, or any PIONEER product, to go on. It/they will do so automatically when the MULTI OPERATION function is used. Also, for some DVD players you will not need to program a play command. Most DVDs will start to play automatically if their power goes on and a DVD is loaded.

Memo Be sure to recall or teach the remote control commands for each component before attempting MULTI OPERATIONS (see "Setting Up the Remote Control to Control Other Components," p. 54).



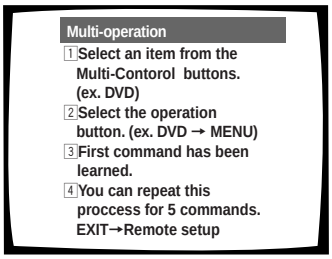
1 Turn on your TV and the receiver.

Make sure your TV is set to the appropriate video input (for eample, VIDEO 1).

2 Press REMOTE SETUP and (3) at the same time to select the Multi-operation setup mode.

The Remote Setup menu appears on your TV screen. The MULTI CONTROL and the SYSTEM OFF buttons start to blink.

To cancel Multi-operation setup mode
Press REMOTE SETUP.

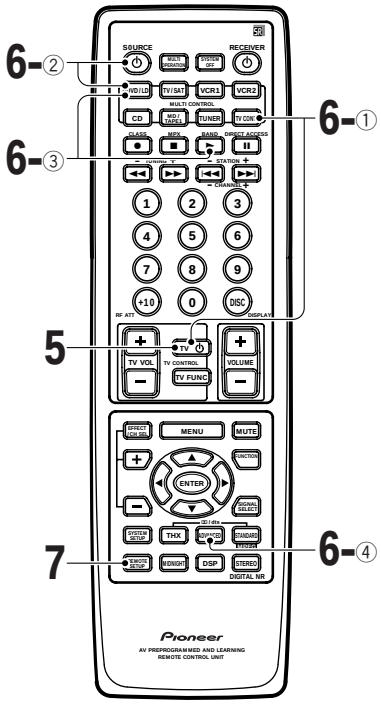

Multi-operation
1 Select an item from the Multi-Contorol buttons. (ex. DVD)
2 Select the operation button. (ex. DVD → MENU)
3 First command has been learned.
4 You can repeat this proccess for 5 commands.
EXIT→Remote setup

3 Press the MULTI CONTROL button where you want to assign MULTI OPERATION.

You can use any MULTI CONTROL button for this procedure. It does not matter which one you choose but for example purposes we will use the DVD/LD button.
This MULTI CONTROL button will be used when you want to recall the MULTI OPERATION commands for use (see the next page: "Performing multi operations").
The SYSTEM OFF button will also blink but cannot be used to recall MULTI OPERATION commands. See page 69 for instructions how to use the SYSTEM OFF button.

4 Press the MULTI CONTROL button where you want to program MULTI OPERATIONs (for example, the TV CONT button).

The selected button will light steadily.
- Each button can perform various preset multi operations (see step 5 on the next page).



5 **Press the operation button, for example TV ⏻ (POWER), you want to input.**

6 **Repeat steps 4 and 5 to input MULTI OPERATIONs to the MULTI CONTROL button you pressed in step 3. You can also tell the receiver to go into a specific sound mode (THX, ADVANCED, STANDARD, MPEG, MIDNIGHT, DSP or STEREO) by inputting that command (for example, see operation ④ below).**

You can repeat this process for up to five commands.

For example : you could enter the following four operations using the preceeding steps 4 and 5.

① Press the TV CONTROL button and TV ⏻ (POWER) to turn on your TV(as explained above).
② Press the DVD/LD button then ⏻ (POWER) to turn on your DVD player (if it is not a PIONEER product).
③ Press the DVD/LD button then ► (play) to start playing the DVD player.
④ Press the ADVANCED button to put the receiver in that sound mode.

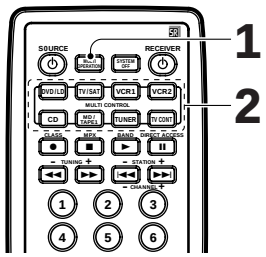
When you employ MULTI OPERATIONs (see below), these four tasks will be performed in the same order.

7 **Press the REMOTE SETUP button to exit the Multi-operation setup mode.**

The remote control and TV return to their previous operation modes.

Performing multi operations

Follow the procedures below to perform multi operations which you programmed in the section before this.



1 **Press the MULTI OPERATION button on the remote control.**

The MULTI CONTROL buttons start to blink.

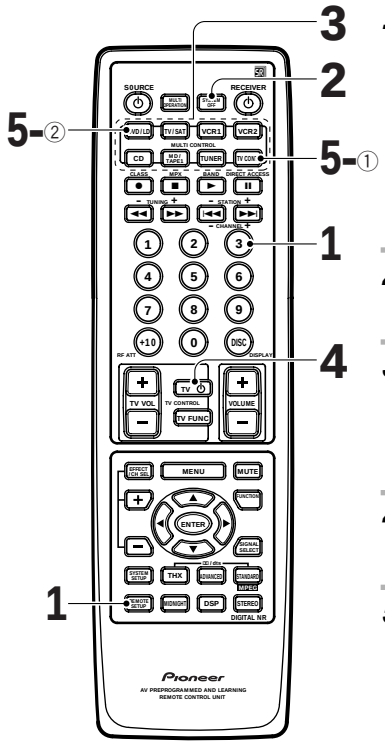
2 **Press the MULTI CONTROL button that has been set up with multi operations.**

The power of the receiver goes on, it switches to an appropriate function, and the programmed multi opearations are performed automatically.

System OFF

The SYSTEM OFF feature allows you to tell the receiver and your other components to stop and turn off with the push of only one button on the remote control. For example, you can program the unit to stop your DVD, turn off your TV, turn off your DVD player and turn off the receiver itself. You do not need to program in other the power for PIONEER components, they will go off automatically in this mode. The receiver itself will go off automatically as well.
The steps below show you how to program a string of up to 5 different SYSTEM OFF operations based on eight possible components.

Memo **Be sure to recall or teach the remote control commands for each component before attempting MULTI OPERATIONS (see "Setting Up the Remote Control to Control Other Components", p.54).**



1 Press the REMOTE SETUP button and the ③ button at the same time to select the MULTI OPERATION SETUP mode.

The REMOTE SETUP menu appears on your TV screen. The MULTI CONTROL and the SYSTEM OFF buttons start to blink.

To cancel MULTI OPERATION SETUP mode
Press REMOTE SETUP.

2 Press the SYSTEM OFF button.

The SYSTEM OFF button will blink.

3 Press the MULTI CONTROL button where you want to assign SYSTEM OFF (for esample, the TV CONT button).

The selected button will light steadily.

4 Press the operation, for example TV ⏻ (POWER), you want to input.

5 Repeat steps 3 and 4 to input SYSTEM OFF for the components and commands you want to input.

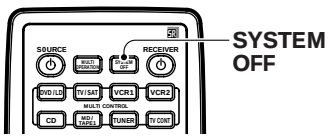
You can repeat this process for up to five commands.
For example: you could enter the following two operations using the proceeding steps 3 and 4.

① Press TV CONT button and TV ⏻ (POWER) to turn off your TV (as explained above).
② Press DVD/LD then ⏻ (POWER) to turn off your DVD player (if it is not a PIONEER product).
When you employ SYSTEM OFF (see below), these two tasks will be performed in the same order.

To exit SYSTEM OFF SETUP mode
Press REMOTE SETUP

Using the SYSTEM OFF button

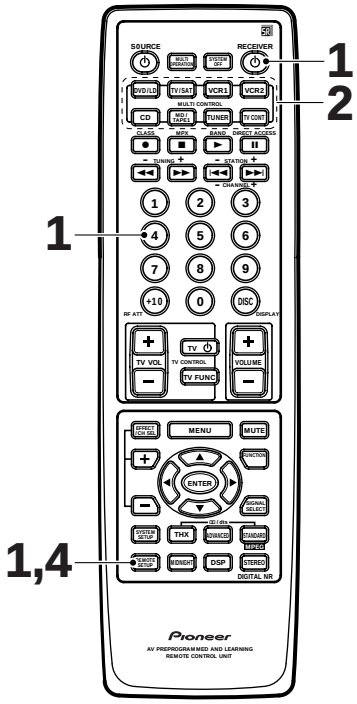
This button will turn off the receiver and any component that has programmed into the SYSTEM OFF settings (see above) as well as turn off all PIONEER components regardless of whether they have been programmed into SYSTEM OFF. If you use this feature when a DVD is playing, the player will stop the play mode before switching off.



Press the SYSTEM OFF button on the remote control.

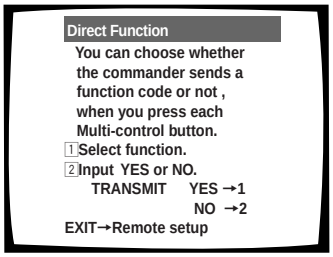
Setting up the Direct Function

The direct function is designed in case you have an external video source connected to your TV (a video source that is not going through the receiver). For this explanation we will call this the "external video deck." You'd like to control external video deck with this unit's remote control so you have assigned it a function button (for example purposes, the VCR 2 button). Yet, if you put the receiver in VCR 2 mode you will get no picture on your TV because the external video deck signal is not going through the receiver. To get around this problem you set the **Direct Function** for VCR 2 to OFF. Now when you press VCR 2 function button you can control the external video deck with the remote but the receiver does not go into VCR 2 mode.



1 Press REMOTE SETUP and (4) at the same time to select the Direct Function mode.

The MULTI CONTROL buttons, DVD/LD, TV/SAT, VCR 1, VCR 2, CD, and MD/TAPE 1 start to blink.


Direct Function
You can choose whether the commander sends a function code or not , when you press each Multi-control button.
1 Select function.
2 Input YES or NO.
TRANSMIT YES →1
NO →2
EXIT→Remote setup

2 Select a component by pressing its MULTI CONTROL button.

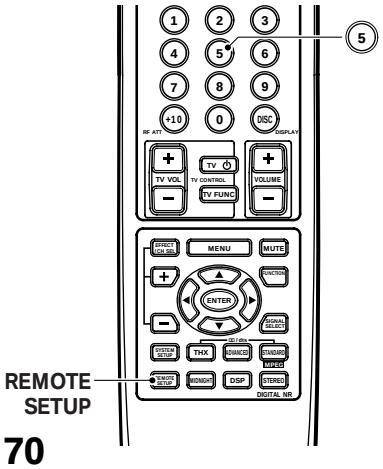
3 Set the Direct Function of each external source to NO by pressing (2).

4 Press REMOTE SETUP to exit the Direct Function mode.

Memo The default setting is all YES. If you have turned a DIRECT FUNCTION to NO and want to turn it back to YES, follow the directions above and press (1) in step 3.

Remote back light

The function is useful when using the unit in a dark room.



Press and hold both REMOTE SETUP and (5).

The remote back light strength cycles in the following order:

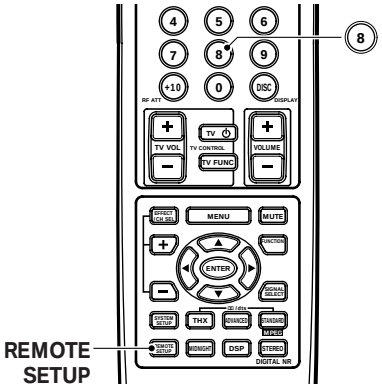
MAX → MID → OFF

Memo The default setting is MAX.

Resetting the Remote Control

The following operations allow you to erase the settings stored in the remote control.

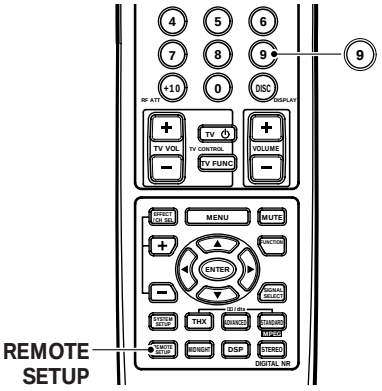
Erasing the multi operations



Press and hold both REMOTE SETUP and (8) for more than 3 seconds.

The MULTI CONTROL buttons will blink 3 times and all personal multi operation settings will be erased.

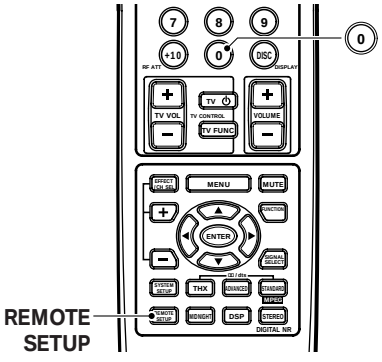
Erasing the learned remote control commands



Press and hold both REMOTE SETUP and (9) for more than 3 seconds.

The MULTI CONTROL buttons will blink 3 times and all signals which have been learned from other remote controls will be erased.

Erasing all signals learned and preset codes



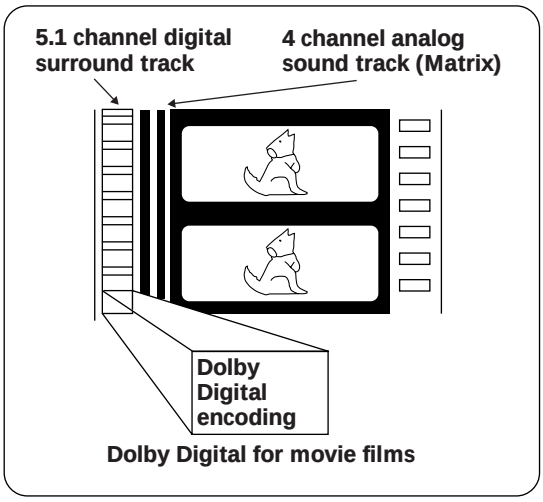
Press and hold both REMOTE SETUP and (0) for more than 3 seconds.

The MULTI CONTROL buttons will blink 3 times and all preset will be erased.

Dolby Digital

Dolby Digital is a compression format which records the sound of 6 channels of the theater surround system (Dolby Digital) on the movie film digital track. Of the 6 channels, the sub woofer channel is intended for bass only, and because the frequency range is smaller than the main channel, it is expressed as 5.1 channel.

Dolby Digital is the name of the Dolby surround multi-channel digital system that was developed after the Dolby Surround System and Dolby Pro Logic Surround System.

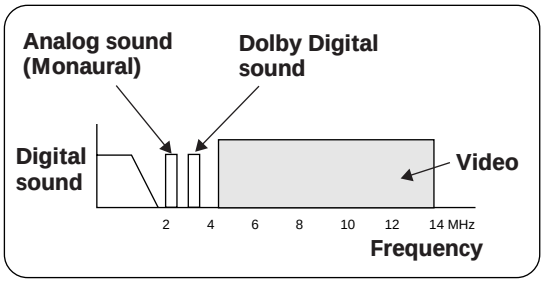


Dolby Digital for movie films

The number of movies made using Dolby Digital since 1992 has exceeded 300 and continues to increase. For compact disc players and laser disc digital sounds, 16 bits are used to sample the original analog audio waveform and sampling is carried out 44,100 times every second. However because an enormous amount of recording signal data is required for the multi channel system with this method, AC-3 is used to compress the data.
In reproducing audio signals, the smaller the bit number used, the lower the sound quality. With AC-3, drop in auditory sound quality is prevented by using masking technology and digital filtering technology based on the human auditory characteristics.

Laser disc format

Laser discs are now available on the market in large numbers. This means that the recording of different format audio signals on the laser disc raises the important question of compatibility with existing laser discs. Dolby Digital tracks on Laser discs record signals using the space of one analog audio channel so it will maintain compatibility with existing discs and players.
As shown in the following figure, the digital audio sounds of Dolby Digital discs can be played back as currently done. Analog sounds are played back by using the other channel without the Dolby Digital signals for monaural audio signals.



Comparison with Dolby Pro Logic Surround

Dolby Digital is also known as the 5.1 channel system. It is equipped with 5 channels (front left, front right, center, surround left, surround right) in the frequency range from 20 Hz to 20 kHz and an independent Low Frequency Effect (LFE) channel. The sub woofer channel is also called Low Frequency Effect (LFE).
The sub woofer channel can be used as desired to enjoy strong bass sounds.
The table on the next page shows the comparison with Dolby Pro Logic Surround effects.

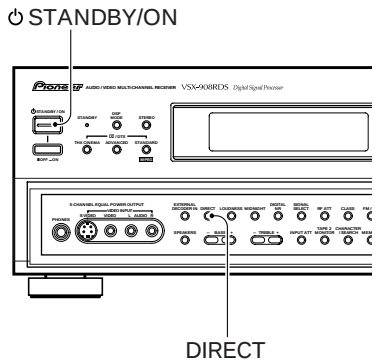
DTS

DTS has been adopted as a sound recording format in the latest movie theaters since the release of "JURASSIC PARK" in 1993, and has a good reputation for high quality sound and dynamic surround effects.
In this system, 6 channels of digital sound are recorded on CD-ROM, rather than on the film. DTS adopts a simultaneous playback format. With a low rate of compression of sound signals and a high rate of transmittance, a higher sound quality format is produced. Also, unlike the process of recording digital sounds on film directly, the only components required are a CD-ROM player as might be used with a personal computer and a DTS processor, and therefore less investment is required than with other formats. For this reason, the format is being introduced in more and more movie theaters, and is being adopted in home movie software (DVD, LD) and music software (5.1 channel CD).
More than 11,000 movie theaters around the world have adopted the DTS format, which is now the most popular digital format for movie theaters, especially in U.S.A, Europe, and Asia.

	Dolby Digital	**DTS**	**Dolby Pro Logic Surround**
No. of recorded channels	5.1 channels (Max.)	6 channels (Max.)	2 channels
No. of playback channels	5.1 channels (Max.)	6 channels (Max.)	4 channels
Playback channel structure	Front Left, Front Right, Center, Surround Left, Surround Right, Sub Woofer	Front Left, Front Right, Center, Surround Left, Surround Right, Sub Woofer	Front Left, Front Right, Center, Surround
Sound processing	Digital discrete processing	Digital discrete processing	Analog matrix processing
Rear (Surround) high frequency playback limit	20,000 Hz	20,000 Hz	7,000 Hz
Other	• 5.1 completely independent channels • High dynamic range • Stable position, high phase characteristics, and advanced surround effects reproduction • High efficiency (Compression ratio of about one-tenth)	• 6 completely independent channels • High dynamic range • Stable position, high phase characteristics, and advanced surround effects reproduction • Low compression ratio (about one-fourth), high quality sound	

Warning about DTS test mode

The receiver has a mode for PIONEER repairment to test the DTS sound quality. You will never need to access this mode. Rather you should be careful NOT to put the receiver in this mode because doing so will erase all your setup parameters like speaker settings, delay settings, channel settings, etc.



In STANDBY mode, holding the DIRECT button and pressing the STANDBY/ON button will put the receiver in DTS test mode. Be careful NOT to do this.

The above described method is similar to choosing either PAL or NTSC video setting and choosing 8 Ω or 6 Ω setting so be particularly careful when performing these operations noy to accidentally put the receiver in DTS test mode.

Memo

- If you accidentally put the receiver in DTS test mode, repeat the same procedure (as above) to put the receiver back in a usable mode. After this you will need to reset your setup parameters (speaker settings, delay settings, channel settings, etc.).

MPEG Audio

MPEG is an audio encoding system which delivers high quality audio for music and movies. By removing frequencies which are out of the human hearing range, the sound is then compressed to enable the transmission of mono, stereo, or multichannel (5.1 and 7.1) audio in a single bitstream which is why it has become a standard audio format for DVD and personal computers. The composition and versatility of MPEG audio also ensures that the presentation of a multichannel soundtrack will sound appropriate on everything from a 7.1 channel surround sound home theater setup to a mono television set. Above all, MPEG audio is designed to be compatible with past and future MPEG audio versions, which means that future versions of MPEG audio will be compatible with decoders currently being produced (the signal is merely reconfigured to fit the number of channels available in a system).

THX

THX is a Lucasfilm, Ltd. program dedicated to maximum accuracy in movie presentation. Movie sound tracks are recorded in large movie dubbing stages using movie theater equipment. For a sound track to be presented accurately in your home, special technologies are required. In your home the room is much smaller and has a bright sound, the speakers are very different and there are only six of them, plus, you sit much closer to each one of those speakers. Because of these differences we often miss the power and emotion that thrills us in a good movie. Now Pioneer and THX have teamed up to bring the full glory of accurate cinema sound to the comfort and convenience of your home.

Re-Equalization™ : In a theater the room is very large and dead sounding, you sit a long way back from the speakers and the speakers themselves are very specialized. Because a sound track recorded in this dead sounding space when it is played at home it sounds overbright. THX Re-Equalization adjusts for this difference in a very precise way.

Dynamic Decorrelation™ : When a sound track sends mono sound to the surround speakers it often seems to be coming come from one side instead of from all around you as it would in a theater. Dynamic Decorrelation helps to correct this inaccuracy.

Timbre Matching™ : When recording a sound track it is very important that the surround sounds move smoothly and seamlessly around the theater. It is very distracting when sounds seem to jump from speaker to speaker. Timbre Matching helps to smooth the movement of the surround sounds even though you are using only two speakers.

Bass Peak Level Manager™ : Some Dolby Digital and DTS soundtracks can produce bass peaks that are undesirable in a home theater environment. The Bass Peak Level Manager allows you to set the maximum peak levels appropriate to your system. (Set this function according to the **bass peak level** instructions on page 32.)

Loudspeaker Position Time Synchronization™ : This feature allows you to adjust for the difference in the distance from each individual loudspeaker to the listening position. Doing this ensures that all the speakers operate in precise synchronization improving the seamless nature of the soundfield. (Set this function according to the **channel delay** instructions on page 28.)

RDS (Radio Data System)

What is RDS (Radio Data System)

In the RDS system, FM broadcast stations transmit information such as station name and program type in addition to standard audio signals. This unit receives RT, PS, and PTY, and provides the EON function.

- **RT (Radio Text) data**
  A text message using a maximum of 64 characters.

- **PS (Program Service Name) data**
  This refers to the broadcast station name.

- **PTY (Program Type) data**
  This refers to the type of program being broadcast by a particular station at a given time.

EON (Enhanced Other Network information)

Function that allows you to set the receiver to switch to a frequency automatically when a program featuring traffic information or news is being broadcast. It cannot be used in areas that EON information is not transmitted and when FM broadcast stations do not transmit PTY data.
When the broadcast ends, it returns to the original frequency.

- **TA (Traffic-Announcement identification)**
  This is an on/off switching signal to indicate whether or not traffic information is on the air.

- **NEWS**

PTY ALARM function

Function which switches to an urgent news broadcast of an FM station when it is broadcast (PTY data alarm signal).
During reception of this signal, TAPE 2 MONITOR and MUTING will automatically be turned off and the display mode will be set to PTY.

EON control

When EON is turned on and a function other than the tuner is set, the function will switch to the FM station automatically when Traffic Information or News begins.
When the program ends, the original function will be restored.
(Even if EON is turned on, this function will not operate when you switch to an AM broadcast.)

PI (Program Identification)

This information consists of a code enabling the tuner to distinguish between countries or areas in which the same program is transmitted, and the identification of the program itself. The code is not intended for direct display and is assigned to each individual radio program to enable it to be distinguished from all other programs.

- **PI code registration and deletion**
  To use the EON function, receivable RDS stations must be programmed in the tuner.
  When the PI code is programmed and the same program (PI code) is preset using a different frequency, this function will only operate the most recently set station regardless of the reception state.
  When presetting new frequencies due to relocation to another area, etc., it is necessary to delete registered PI codes.
  To erase PI codes, perform the following procedure.

1. **Press the EON MODE button for two seconds or more.**
   "ERASE PI" will be displayed.
2. **Within 5 seconds, press MEMORY.**

The following are the 29 PTY data titles transmitted.

News [NEWS]
- Short accounts of facts, events and publicly expressed views, reportage and actuality.

Current affairs [AFFAIRS]
- Topical program expanding or enlarging upon the news, generally in a different presentation style or concept, including debate, or analysis.

Information [INFORMATION]
- Program's purpose is to impart advice in the widest sense.

Sport [SPORT]
- Program concerned with any aspect of sport.

Education [EDUCATION]
- Program intended primarily to educate, of which the formal element is fundamental.

Drama [DRAMA]
- All radio plays and serials.

Culture [CULTURE]
- Programs concerned with any aspect of National or Regional culture, including language, theatre, etc.

Science [SCIENCE]
- Programs about the natural sciences and technology.

Varied [VARIED]
- Used for mainly speech-based programs usually of light-entertainment nature, not covered by other categories. Examples include quiz shows, panel games, and personal interviews.

Pop Music [POP MUSIC]
- Commercial music, which would generally be considered to be of current popular appeal, often featuring current or recent record sales charts.

Rock Music [ROCK MUSIC]
- Contemporary modern music.

M.O.R. Music [M.O.R. MUSIC]
- (Middle of the Road Music) Common term to describe music considered to be “easy-listening”, as opposed to Pop, Rock or Classical.

Light classical [LIGHT MUSIC]
- Classical Music for general, rather than specialist appreciation. Examples of music in this category are instrumental music, and vocal or choral works.

Serious classical [CLASSICAL]
- Performances of major orchestral works, symphonies, chamber music etc., and includes Grand Opera.

Other music [OTHER MUSIC]
- Musical styles not fitting into any of the other categories. Particularly used for specialist music of which Rhythm & Blues and Reggae are examples.

Weather [WEATHER]
- Weather reports, forecasts and Meteorological information.

Finance [FINANCE]
- Stock Market reports, commerce, trading etc.

Children's programs [CHILDREN]
- Programs targeted at a young audience, primarily for entertainment and interest, rather than education.

Social Affairs [SOC. AFFAIRS]
- Programs about people and things that influence individuals or groups. Includes sociology, history, geography, psychology and society.

Religion [RELIGION]
- Any aspect of beliefs and faiths, involving a God or Gods, the nature of existence, and ethics.

Phone In [PHONE IN]
- Involving members of the public expressing their views either by phone or at a public forum.

Travel [TRAVEL]
- Features and programs concerned with travel to near and far destinations, package tours and travel ideas and opportunities. Not for use of Announcements about problems, delays, or roadworks affecting immediate travel where TP/TA should be used.

Leisure [LEISURE]
- Programs concerned with recreational activities in which the listener might participate. Examples include Gardening, Fishing, Antique collecting, Cooking, Food & Wine etc.

Jazz Music [JAZZ MUSIC]
- Polyphonic, syncopated music characterised by improvisation.

Country Music [COUNTRY M]
- Songs which originate from, or continue the musical tradition of the American Southern States, characterised by a straightforward melody and narrative story line.

National Music [NATIONAL M]
- Current Popular Music of the nation or region in that country's language, as opposed to International ‘Pop’ which is usually U.S. or U.K. inspired, and in English.

Oldies Music [OLDIES MUSIC]
- Music from the so-called “golden age” of popular music.

Folk Music [FOLK MUSIC]
- Music which has its roots in the musical culture of a particular nation, usually played on acoustic instruments. The narrative or story may be based on historical events or people.

Documentary [DOCUMENTARY]
- Program concerned with factual matters, presented in an investigative style.

STATION CALL button “memo”

It is recommended that you make a note of the preset stations.

CLASS A	Station No.	*1	*2	*3	*4	*5
	Station Name					
	Frequency					
	Station No.	*6	*7	*8	*9	*0
	Station Name					
	Frequency					
CLASS B	Station No.	*1	*2	*3	*4	*5
	Station Name					
	Frequency					
	Station No.	*6	*7	*8	*9	*0
	Station Name					
	Frequency					
CLASS C	Station No.	*1	*2	*3	*4	*5
	Station Name					
	Frequency					
	Station No.	*6	*7	*8	*9	*0
	Station Name					
	Frequency					

Character display used for station name input:

Character	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Display indications																	
Character	R	S	T	U	V	W	X	Y	Z	[	\	]	_	!	0	1	2
Display indications																	
Character	3	4	5	6	7	8	9	"	%	&	'	(	)	*	+	,	-
Display indications																	
Character	.	/	:	=	?	@											
Display indications																	

Preset Code List

Device	Manufacturer	Code
DVD	TOSHIBA	001
	SONY	002
	PANASONIC	003
	JVC	004
	SAMSUNG	005
	SHARP	006
	AKAI	007
	RCA	009
	PIONEER	000, 008
LD	SONY	101
	DENON	106
	HITACHI	105
	PHILIPS	104
	RADIOLA	104
	SONY	101, 103
	TELEFUNKEN	100
	PIONEER	100, 102 (DVD/LD player)
SAT	PIONEER	200, 202
VCR	PHILIPS	414, 428
	PANASONIC	403, 408
	THOMSON	417, 420, 428
	SONY	416, 417
	JVC	407, 417, 428
	GRUNDIG	408, 414, 419, 425, 426, 427
	AKAI	401, 417
	HITACHI	406, 417, 419
	TOSHIBA	405, 409, 414, 417, 428
	MITSUBISHI	407, 409, 414
	SHARP	402
	ORION	412, 413, 424
	SANYO	410
	FERGUSON	417, 420, 421
	BLAUPUNKT	403, 408, 417, 427
	NOKIA	401, 410, 417
	SELECO	417
	AIWA	413, 419
	AKIBA	425
	ALBA	413, 415, 418, 423, 424
	AMBASSADOR	423
	AMSTRAD	419
	ANITECH	425
	ASA	411, 414
	BAIRD	410, 417, 419, 421
	BASIC LINE	418, 423, 425
	BRANDT	420, 422
	BRANDT ELECTRONIQUE	417
	BUSH	413, 415, 418, 424, 425
	CATRON	423
	CGB	419
	CIMLINE	425
	CLATRONIC	423
	CONDOR	423
	CROWN	418, 423, 425

Device	Manufacturer	Code
VCR	DAEWOO	418, 423
	DANSAI	425
	DE GRAAF	406
	DECCA	414,419
	DUAL	417
	DUMONT	410, 414, 419
	ELCATECH	425
	FIDELITY	419
	FINLANDIA	410, 414
	FINLUX	406, 410, 414, 419
	FIRSTLINE	405, 409, 411, 424, 425
	FISHER	410
	FRONTECH	423
	FUNAI	419
	GBC	414
	GENERAL	423
	GOLDSTAR	411
	GOODMANS	411, 418, 419, 423, 425
	GRAETZ	410, 417
	GRANADA	410, 414
	GRANDIENTE	430
	GRANDIN	411, 419, 425
	HCM	425, 426
	HINARI	412, 413, 425, 426
	HYPSON	425
	IMPERIAL	419
	INTERFUNK	414
	ITT	401, 410, 417, 428
	ITV	411, 418
	KAISUI	425
	KENDO	401, 424
	KORPEL	425
	LEYCO	425
	LOEWE	411, 414
	LUXOR	401, 409, 410
	M-ELECTRONIC	419
	MANESTH	405, 425
	MARANTZ	414
	MATSUI	412, 413, 424
	MEMOREX	410, 411, 419
	MEMPHIS	425
	METZ	403, 427
	MINERVA	427
	MULTITECH	419, 425
	MURPHY	419
	NBC	407, 417
	NECKERMANN	414
	NESCO	425
	NORDMENDE	417, 428
	OCEANIC	417, 419
	OSAKI	411, 419, 425
	OTTO VERSAND	414
	PALLADIUM	411, 417, 425
	PATHE MARCONI	417
	PENTAX	406
	PERDIO	419

Device	Manufacturer	Code
VCR	PHONOLA	414
	PORTLAND	423
	PROLINE	419, 426
	PYE	414
	QUELLE	414
	RADIOLA	414
	REX	417, 428
	ROADSTAR	411, 418, 425
	SABA	417, 420, 428
	SAISHO	412, 424
	SALORA	401, 409
	SANSUI	407, 417
	SBR	414
	SCHAUB LORENZ	417, 419
	SCHNEIDER	414, 419, 425
	SEI	414
	SENTRA	423
	SHINTOM	425
	SIEMENS	410, 411, 427
	SINGER	405
	SINUDYNE	414
	SOLAVOX	423
	SUNSTAR	419
	SUNTRONIC	419
	TASHIKO	419
	TATUNG	414, 417, 419
	TEC	423
	TELEAVIA	417
	TELEFUNKEN	417, 420, 422, 428
	TENOSAL	425
	TENSAI	419
	THORN	410, 417
	UNIVERSUM	401, 411, 414, 419, 427
	YAMISHI	425
	YOKAN	425
	YOKO	423
	PIONEER	400, 404, 407, 414, 431 (DVD video Recorder)
TAPE	AKAI	823
	ARCAM	810
	DENON	810, 821
	FISHER	813
	GRUNDIG	815
	JVC	802
	KENWOOD	804, 807, 816
	LUXMAN	805
	MARANTZ	815
	MEMOREX	819
	MITSUBISHI	823
	NAKAMICHI	806
	ONKYO	808, 812
	PHILIPS	815
	SANSUI	818
	SHERWOOD	809
	SONY	801, 817
	TANDBERG	814
	TECHNICS	803
	TOSHIBA	820, 822
	YAMAHA	811, 816
	PIONEER	800, 819

Device	Manufacturer	Code
CD	AKAI	308
	ARCAM	312
	ASUKA	313
	AUDIO TON	312
	BUSH	305
	CALIFORNIA AUDIO LAB	304
	CYRUS	312
	DENON	309
	DUAL	313, 319
	FISHER	317
	GOLDSTAR	302
	GRUNDIG	312
	HITACHI	307
	INTERSOUND	313
	JVC	303
	KENWOOD	310, 311
	KODAK	322
	LINN	312
	LUXMAN	318
	M ELECTRONIC	323
	MARANTZ	304, 312
	MATSUI	312
	MCS	304
	MEMOREX	300
	MERIDIAN	312
	MITSUBISHI	308
	NAD	316
	NAIM	312
	ONKYO	320
	PANASONIC	304
	PHILIPS	312, 322
	QUAD	312
	QUASER	304
	ROADSTAR	323
	ROTEL	312
	SABA	319
	SANYO	317
	SHARP	321
	SONY	301, 316
	TECHNICS	304, 306
	TELEFUNKEN	319
	THOMSON	319
	UNIVERSUM	312
	YAMAHA	314, 315
	PIONEER	300, 325 (CD recorder)
TV	PHILIPS	601, 607, 610, 636
	SONY	604
	GRUNDIG	601, 632
	PANASONIC	601, 608, 620, 622
	TOSHIBA	605, 632
	TELEFUNKEN	612, 614, 631
	SHARP	602
	SAMSUNG	607, 615, 623, 625
	HITACHI	601, 606, 610, 612, 620, 621, 633, 637
	SABA	601, 612, 620, 630
	BRANDT	612
	SANYO	611, 624, 627

Device	Manufacturer	Code	Device	Manufacturer	Code
TV	THOMSON	612, 630, 631	TV	FIRSTLINE	617, 623
	FERGUSON	607, 612, 630		FISHER	603, 611, 615, 624
	NOKIA	603, 620, 631		FORMENTI	603, 607, 620
	MITSUBISHI	601, 609		FRONTECH	601, 620, 625
	SCHNEIDER	607, 619, 626		FRONTECH/ PROTECH	603
	GOLDSTAR	607, 629			
	BLAUPUNKT	601		FUJITSU	627
	NORDMENDE	603, 612, 630, 631		FUNAI	617, 625
	RADIOLA	607		GBC	603, 620
	JVC	613		GEC	607, 610, 627
	DAEWOO	607, 623, 636		GELOSO	603, 623
	ORION	603, 607, 616, 617		GENEXXA	601, 619
	SIEMENS	601		GOODMANS	607, 616, 626, 627, 636
	ACURA	623			
	ADMIRAL	601		GORENJE	615
	AKAI	603, 611, 620		GPM	619
	AKURA	619		GRAETZ	601, 620
	ALBA	607, 616, 619, 623		GRANADA	607, 611, 620, 621, 627
	AMSTRAD	620, 623, 626			
	ANITECH	623		GRANDIENTE	639
	ASA	624		GRANDIN	618
	ASUKA	619		HANSEATIC	607, 620
	AUDIOGONIC	607, 612		HCM	618, 623
	BASIC LINE	619, 623		HINARI	607, 619, 623
	BAUR	601, 607, 620		HISAWA	618
	BEKO	615		HUANYU	636
	BEON	607		HYPSON	607, 618, 625
	BLUE SKY	619		ICE	625, 626
	BLUE STAR	618		IMPERIAL	615, 620
	BPL	618		INDIANA	607
	BTC	619		INGELEN	601
	BUSH	607, 619, 620, 623, 626, 636		INTERFUNK	601, 603, 607, 620
				INTERVISION	625, 628
	CASCADE	623		ISUKAI	619
	CATHAY	607		ITC	620
	CENTURION	607		ITT	601, 603, 620
	CGB	620		JEC	605
	CIMLINE	623		KAISUI	618, 619, 623
	CLARIVOX	607		KAPSCH	601
	CLATRONIC	615		KENDO	620
	CONDOR	615		KENNEDY	603, 620
	CONTEC	623		KORPEL	607
	CROSLEY	603		KOYODA	623
	CROWN	615, 623		LEYCO	607, 617, 625, 627
	CRYSTAL	620		LIESENK&TTER	607
	CYBERTRON	619		LUXOR	603, 620, 621
	DAINICHI	619		M ELECTRONIC	601, 623, 624, 633, 635, 636
	DANSAI	607			
	DAYTON	623		M-ELECTRONIC	607, 612, 630
	DECCA	607, 627		MAGNADYNE	603, 628
	DIXI	607, 623		MAGNAFON	628
	DUMONT	632		MANESTH	616, 625
	ELIN	607		MARANTZ	607
	ELITE	619		MARK	607
	ELTA	623		MATSUI	607, 616, 617, 620, 623, 626, 627
	EMERSON	620			
	ERRES	607		MCMICHAEL	610
	FINLANDIA	611, 621, 635		MEDIATOR	607
	FINLUX	603, 607, 624, 627, 632, 633, 635		MEMOREX	623
				METZ	601
				MINERVA	601, 632
				MULTITECH	623, 628
				NECKERMANN	601, 607

Device	Manufacturer	Code
TV	NEI	607, 620
	NIKKAI	605, 607, 619, 625, 627
	NOBLIKO	628
	OCEANIC	601, 603, 620
	OSAKI	619, 625, 627
	OSO	619
	OSUME	627
	OTTO VERSAND	601, 603, 607, 620
	PALLADIUM	615
	PANAMA	625
	PATHO CINEMA	620
	PAUSA	623
	PHILCO	603, 620
	PHOENIX	603
	PHONOLA	607
	PROFEX	620, 623
	PROTECH	607, 620, 623, 625, 628
	QUELLE	601, 603, 607, 620, 624, 632
	R-LINE	607
	RBM	632
	REDIFFUSION	603, 620
	REX	601, 625
	ROADSTAR	619, 623, 625
	SAISHO	616, 623, 625
	SALORA	601, 603, 620, 621
	SAMBERS	628
	SBR	607, 610
	SCHAUB LORENZ	620
	SEG	620, 625
	SEI	603, 617, 628
	SELECO	601, 620
	SIAREM	603, 628
	SINUDYNE	603, 616, 617, 628
	SKANTIC	621
	SOLAVOX	601
TV	SONOKO	607, 623
	SONOLOR	601, 611
	SONTEC	607
	SOUNDWAVE	607
	STANDARD	619, 623
	STERN	601
	SUSUMU	619
	SYSLINE	607
	TANDY	601, 619, 627
	TASHIKO	610
	TATUNG	607, 627
	TEC	620
	TELEAVIA	612
	TELETECH	623
	TENSAI	617, 619
	THORN	601, 607, 620, 624, 627
	TOMASHI	618
	TOWADA	620
	ULTRAVOX	603, 620, 628
	UNIVERSUM	601, 607, 615, 620, 624, 625, 633, 635
	VESTEL	607
	VOXSON	601
	WALTHAM	621
	WATSON	607
	WATT RADIO	603, 620, 628
	WHITE WESTINGHOUSE	607
	YOKO	607, 620, 625
	PIONEER	600, 601, 603, 607, 612, 620, 630
MD	SONY	901
	KENWOOD	903
	SHARP	902
	TEAC	904
	ONKYO	905
	DENON	906
	PIONEER	900,902

Troubleshooting

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
The power does not turn ON.	• The power plug is disconnected.	• Connect the power plug to the wall outlet.
	• The protection circuit may have been activated.	• Disconnect the power plug from the outlet, and insert again.
The unit does not respond when the buttons are pressed.	• Static electricity caused by dry air.	• Disconnect the power plug from the outlet, and insert again.
No sound is output when a function is selected.	• Improper connections.	• Make sure the component is connected correctly (see p. 8-17).
	• Sound is muted.	• Press MUTE on the remote control.
	• The volume is turned down.	• Adjust MASTER VOLUME.
	• The TAPE 2 MONITOR is ON.	• Press the TAPE 2 MONITOR button.
	• Speakers are turned OFF.	• Press SPEAKERS (A/B) to select the speakers you connected.
	• DIGITAL/ANALOG switch is set incorrectly.	• Set SIGNAL SELECT (see p. 41)
No image is output when a function is selected.	• Improper connections.	• Make sure the component is connected correctly (see p. 9).
	• The input source is not properly selected.	• Press the correct function button.
Considerable noise in radio broadcasts.	• Incorrect frequency.	• Tune in the correct frequency.
	• The antenna is not connected.	• Connect the antenna (see p.13).
	• AC-3 RF and/or digital cables are near the antenna terminals and wires.	• Route AC-3 RF and digital cables away from the antenna terminals and wires.
	FM broadcasts	
	• The FM antenna is not fully extended or is poorly positioned.	• Fully extend the FM wire antenna, position for best reception, and secure to a wall.
	• Weak radio signals.	• Connect an outdoor FM antenna (see p.13).
	• Strong interfering radio waves causes distortion in sound.	• Press the RF ATT button (see p.46).
	AM broadcasts	
	• The AM antenna is poorly positioned.	• Adjust the direction and position for best reception.
	• Weak radio signals.	• Connect an additional internal or external AM antenna (see p.13).
	• Interference caused by other equipment (fluorescent lamp, motor, etc.).	• Turn off the equipment causing the noise or move it away from the receiver.
		• Place the antenna farther away from the equipment causing the noise.
Broadcast stations cannot be selected automatically.	• Weak radio signals.	• Connect an outdoor antenna (see p.13).
Sub woofer output is very low.	• The current setting routes signals away from the sub woofer.	• To get more signals to the sub woofer, set it to PLUS or choose SMALL for the FRONT speakers.

Symptom	Cause	Remedy
No sound from surround or center speakers.	• Speaker settings are incorrect. • The rear and/or center levels are turned down. • The surround and/or center speakers are disconnected.	• See “Speaker Setting” on p.26-27 to check the speaker settings. • See “Channel Level” p.29 to check the speaker levels. • Connect the speakers (see p.14, 15).
Sound is produced from some components, but not from digital components.	• SIGNAL SELECT is set incorrectly. • The digital inputs are assigned incorrectly, or not at all.	• Set SIGNAL SELECT to “DIGITAL” or “ANALOG” according to the type of connections made (see p. 41). • Set the digital input settings correctly (see p.34).
No sound is output or a noise is output when software with DTS is played back.	• SIGNAL SELECT is set to “ANALOG”. • A DVD player not compatible with DTS is used, or the setting of the DVD player is incorrect. • The digital output level has been turned down on a CD player or other component equipped with digital output level adjustment capability. (The DTS signal has been altered by the player, and cannot be read.)	• Make digital connections (see p.10, 11) and set SIGNAL SELECT to “DIGITAL” (see p.41). • Refer to the instruction manual supplied with the DVD player. • Set the digital volume level of the player to full, or to the neutral position.
The sound is output intermittently when software with DTS is played back. The overload indicator is lit.	• Disc being played back has a huge amount of information on it.	• Use the STANDARD mode to get the best results (see Memo on p.38).
When a search is performed by a DTS compatible CD player during playback, noise is output.	• The search function performed by the player interferes with the reading of digital information.	• This is not a malfunction, but be sure to turn the volume down to prevent the output of loud noise from your speakers.
Cannot be remote controlled.	• The remote control batteries have worn out. • Too far away or bad angle of operation. • There is an obstacle between the receiver and the remote control. • Strong light such as fluorescent light is shining onto the unit’s remote control signal sensor window. • A cord is connected to the CONTROL IN terminal on this unit.	• Replace the batteries (see p.6). • Operate within 7 m, 30° of the remote sensor on the front panel (see p.7). • Remove the obstacle or operate from another position. • Avoid exposing the remote sensor on the front panel to direct light. • Connect cord to the correct jack.
The display is dark.	• The FL DIMMER button is pushed.	• Press FL DIMMER on the front panel repeatedly to return to the default setting. (see p.45)

If the unit does not operate normally due to external effects such as static electricity

Disconnect the power plug from the outlet and insert again to return to normal operating conditions.

Specifications

Amplifier Section

Continuous Power Output (STEREO MODE)
FRONT .... 110 W + 110 W (DIN 1 kHz, THD 1 %, 8Ω)
Continuous Power Output (SURROUND MODE)
FRONT .... 110 W + 110 W (DIN 1 kHz, THD 1 %, 8Ω)
CENTER ..... 110 W (DIN 1 kHz, THD 1 %, 8Ω)
SURROUND ..... 110 W + 110 W (DIN 1 kHz, THD 1 %, 8Ω)
Rated Power Output ..... 100 W + 100 W (20 Hz-20 kHz, THD 0.09 %, 8Ω)

- Above specifications are applicable when the power supply is 230V.

Input (Sensitivity/Impedance)
PHONO MM ..... 4.7 mV/47 kΩ
VCR 1, VCR 2, DVD/LD, TV/SAT, VIDEO, CD, MD/TAPE 1/CD-R, TAPE 2 ..... 335 mV/47 kΩ
Phono Overload Level (T.H.D. 0.1 %, 1 kHz)
PHONO MM ..... 120 mV
Frequency Response
PHONO MM ..... 20 Hz to 20,000 Hz ±0.3 dB
VCR 1, VCR 2, DVD/LD, TV/SAT, VIDEO, CD, MD/TAPE 1/CD-R, TAPE 2 .... 5 Hz to 100,000 Hz $^{+0}_{-3}$dB
Output (Level/Impedance)
VCR 1 REC, VCR 2 REC, MD/TAPE 1/CD-R REC, TAPE 2 REC ..... 335 mV/1 kΩ
Tone Control
BASS ..... ± 6 dB (100 Hz)
TREBLE ..... ± 6 dB (10 kHz)
LOUDNESS ..... +3 dB (100 Hz/10 kHz)
Signal-to-Noise Ratio (IHF, short circuited, A network)
PHONO MM ..... 80 dB
VCR 1, VCR 2, DVD/LD, TV/SAT, VIDEO, CD, MD/TAPE 1/CD-R, TAPE 2 ..... 101 dB
Signal-to-Noise Ratio
[DIN (Continuous rated power output/50 mW)]
PHONO MM ..... 68 dB/61 dB
VCR 1, VCR 2, DVD/LD, TV/SAT, VIDEO, CD, MD/TAPE 1/CD-R, TAPE 2 ..... 92 dB/65 dB

VIDEO Section

Input (Sensitivity/Impedance)
VCR 1, VCR 2, DVD/LD, TV/SAT, VIDEO ... 1 Vp-p/75 Ω
Output (Level/Impedance)
VCR 1, VCR 2, MONITOR ..... 1 Vp-p/75 Ω
Frequency Response
VCR 1, VCR 2, MONITOR ..... 5 Hz to 10 MHz $^{+0}_{-3}$dB
Signal-to-Noise Ratio ..... 65 dB

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono: 15.2 dBf, IHF (1.6 µV/75 Ω)
50 dB Quieting Sensitivity ..... Mono: 20.2 dBf
Stereo: 41.2 dBf
Sensitivity (DIN) ..... Mono: 1.1 µV (S/N 26 dB)
Stereo: 50 µV (S/N 46 dB)
Signal-to-Noise Ratio ..... Mono: 76 dB (at 85 dBf)
Stereo: 72 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN) ..... Mono: 62 dB
Stereo: 58 dB
Distortion ..... Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity ..... 70 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (± 1dB)
Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range ..... 531 kHz to 1.602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Selectivity ..... 30 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements
UK model ..... AC 230 V, 50/60 Hz
European model ..... AC 220 - 230 V, 50/60 Hz
Power Consumption ..... 400 W
Power Consumption in Standby mode ..... 1.0 W
AC Outlets (except for the UK model)
SWITCHED (×2) ..... Total 100 W MAX.
UNSWITCHED ..... 100 W MAX.
Dimensions ..... 420 (W) × 173 (H) × 470 (D) mm
Weight (without package) ..... 14.9 kg

Furnished Parts

FM Antenna 1
AM Loop Antenna 1
Dry Cell Batteries (SIZE "AA" (IEC LR6)) 2
Remote Control Unit 1
Operating Instructions 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

Published by Pioneer Corporation.
Copyright © 1999 Pioneer Corporation.
All rights reserved.

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS [USA] INC. P.O. BOX 1540, Long Beach, California 90801-1540, U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway, Markham, Ontario L3R OP2, Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium TEL: 03/570.05.11
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia, TEL: [03] 9586-6300
PIONEER ELECTRONICS DE MEXICO S.A. DE C.V. San Lorenzo Num 1009 3er piso Desp. 302 Col. Del Valle, Mexico D.F. C.P. 03100 TEL: 5-688-52-90

<99F00EF0H00> Printed in Japan <ARB7187-B>